DOCUMENT RESUME

ED 049 406 AC 010 072

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TITLE The Effects of Work Group Structure on Social Psychological Aspects of the Human Organization.
INSTITUTION Michigan Univ., Ann Arbor. Dept. of Psychology.
PUB DATE 69
NOTE 57p.

EDRS PRICE EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS Employee Attitudes, *Employees, *Group Structure, *Job Satisfaction, Mental Health, Organizational Climate, Peer Relationship, Questionnaires, Research, *Supervisors, *Work Experience

ABSTRACT

To investigate the effects of work group structure on measures of organizational behavior, questionnaire data from employees in a department characterized by complex, unstable work group structure and variable supervisory reporting relationships were compared with data from similar employees in two departments characterized by stable work group structure and constant supervisory reporting relationships. The latter reported lower levels of peer leadership, higher levels of intervening variables pertaining to the organization as a whole, and greater satisfaction with the company. There were no differences between those in stable and those in unstable structure on reported levels of supervisory leadership, general working conditions, intervening variables pertaining to the work group, and mental health. The findings are interpreted as indicating that work group structure can be more costly to the organization than the lack of stable work group structure. Another possibility is that unstable structure triggers development of coping mechanisms that facilitate interaction across subunit boundaries, increasing linkage. Other interpretations and implications of the findings are discussed. (The questionnaire is included.) (Author/PT)

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THE EFFECTS OF WORK GROUP STRUCTURE ON SOCIAL PSYCHOLOGICAL ASPECTS OF THE HUMAN ORGANIZATION

Submitted by B. D. Fine
in completion of the predoctoral
supervised research requirement

Department of Psychology
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Winter, 1969

AC 010 072

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ABSTRACT

To investigate the effects of work group structure on measures of organizational behavior, questionnaire data from employees in a department characterized by complex, unstable work group structure and variable supervisory reporting relationships were compared with data from similar employees in two departments characterized by stable work group structure and constant supervisory reporting relationships. Employees in unstable structure reported lower levels of peer leadership, higher levels of intervening variables pertaining to the organization as a whole, and greater satisfaction with the company. There were no differences between those in stable and those in unstable structure on reported levels of supervisory leadership, general working conditions, intervening variables pertaining to the work group, and mental health. The findings are interpreted as indicating that work group structure can be more costly to the organization than the lack of stable work group structure. Another possibility is that unstable structure triggers development of coping mechanisms that facilitate interaction across subunit boundaries, increasing linkage. Other interpretations and implications of the findings are discussed.

Center for Research on Utilization of Scientific Knowledge
Business & Industry Program

Research Bulletin Number 8
January, 1969

THE EFFECTS OF WORK GROUP STRUCTURE ON SOCIAL PSYCHOLOGICAL ASPECTS OF THE HUMAN ORGANIZATION

Likert (1961) has summarized a considerable body of evidence supporting the conclusion that the quality of interaction process in face-to-face work groups is an important determinant of organizational performance (Chapter 3). A basic principle in Likert's System 4 management is that the superior must supervise his subordinates as a group. The small peer group is the immediate context within which supportive relationships and high performance goals can be most effectively established. These face-to-face work groups become the building blocks of a System 4 organization. Although in moving toward System 4 it is essential to establish an effective interaction-influence system by carefully designing multiple linkage among the work groups, the work groups themselves must exist first. They are the basic unit. In Likert's words,

> "The effectiveness of the interaction-influence system of an organization and the capacity of this system to deal with difficult problems depend upon the effectiveness of *the work groups of which the structure consists* and upon the extent to which multiple linkage is provided" (1961, p. 181, italics added).

Any organizational design that did not provide for strong, stable, face-to-face work groups would be in violation of System 4 principles. Group methods of supervision would be impossible, and interpersonal communication and influence would consequently decline. Decision making, performance goals, motivation, group loyalty, and other intervening variables (Likert, 1967, p.76) would decrease, followed eventually by a drop in end-result variables like production, earnings, satisfaction, and mental health.

A different view of the social structure of future organizations is presented by Bennis (1966):

> "The key word will be "temporary"; there will be adaptive, rapidly changing *temporary systems*. These will be organized around *problems-to-be-solved*. The problems will be solved by groups of relative *strangers* who represent a set of diverse professional skills. The groups will be conducted on *organic* rather than mechanical models; they will evolve in response to the problem rather than programmed role expectations...
>
> Adaptive, temporary systems of diverse specialists, solving problems, linked together by coordinating and task-evaluative specialists, in organic flux, will gradually replace bureaucracy as we know it... Let us call this an *organic-adaptive* structure" (p. 12, italics in original).

Although Bennis only briefly sketches his picture of future organizational structure, it is possible to compare it to Likert's formulations. Both stress the importance of social relations within the organization, technical competance, adaptability, problem-solving, and coordination. Both mention the necessity of linkages. Perhaps the major difference between Likert and Bennis is that Bennis does not regard the stable work group as an essential ingredient in the building of the organization. This contrasts sharply with Likert's notion of the work group. In describing the properties of "the ideal highly effective group," Likert writes that "The group has been in existence sufficiently long to have developed a well-established, relaxed working relationship among all its members" (1961, p. 166).

The line seems clearly drawn between Bennis' organization of the future and Likert's ideal organizational structure. Although it is impossible to study future and ideal organizations empirically, continuous-process industry provides conditions which allow an empirical examination of these structural issues. System 4 conceptions lead to the general hypothesis that the state of the intervening variables will be higher in a department composed of close knit work groups than in a similar department lacking this work group structure. From the organic-adaptive model is derived the general hypothesis that a department without stable work group structure may be higher in the level of intervening variables.

One exception to the organic-adaptive hypothesis is proposed by Bennis. In his own words,

> "There will be, as well, reduced commitment to work groups. These groups...will be transient and changing. While skills in human interaction will become more important because of the necessity of collaboration in complex tasks, there will be a concomitant reduction in group cohesiveness. I would predict that in the organic adaptive system, people will have to learn to develop quick and intense relationships on the job and to endure their loss" (p. 13).

Thus, in regard to commitment to work group and group cohesiveness, the organic-adaptive prediction deviates in direction from the general organic-adaptive hypothesis stated above, and is in agreement with the System 4 hypothesis.

A final hypothesis derives from research on organizational stress. Kahn, Wolfe, Quinn, Snoek, and Rosenthal (1964) studied stress as a consequence of role conflict and role ambiguity. They found a positive relationship between ambiguity and stress (tension) and a negative relationship with satisfaction. In the present study, objective ambiguity was defined structurally. A situation of no stable work group structure was regarded as apt to generate greater role ambiguity than one with a work group structure. This will become clearer when the research site is described below. Thus, it was hypothesized that lack of stable work group structure will be associated with higher job-related tension and lower job satisfaction.

METHOD

Site and Respondents

Data relevant to the hypotheses were collected as part of a larger longitudinal study of organizational change in a major American oil refinery. The maintenance division of this refinery has one department that is different from the others in that its employees, labeled "plannables," constitute a manpower pool with no permanent work group structure. The scheduling of the work done by this department is unpredictable. Men are assigned to jobs on an *ad hoc* basis, with frequent job changes according to refinery needs. They may spend several months or only a few days on any one job assignment.

A plannable's coworkers change frequently Instead of working within the framework of a stable work group, he works with whichever other employees happen to get assigned to work with him. A plannable works under many different supervisors, depending on what job he has been given, for any limited span of time. The complexity of the plannable arrangement was demonstrated by the lack of agreement, or actual confusion, revealed among refinery managers in answering fairly clear and straightforward questions about the plannables.

In contrast to the fluid situation of the plannables, the assigned wage-earners have permanently assigned posts in their departments, work in fairly stable work groups, and have enduring reporting relationships with their supervisors. The permanent nature of their work assignments gives the assigneds more of the small group character described by Likert. The plannables' fluid work relationships are closer to the organic-adaptive structure described by Bennis.

Since the plannables and assigneds are part of the same division and are both located at the same geographical location, they share a common organizational culture and are open to much the same contextual influences. Although plannables are more broadly skilled due to their familiarity with a wider range of jobs, the assigneds are more skilled in the particular jobs that they perform. These similarities make it convenient to compare these two classes of employees.

Unfortunately, in the opinion of a sample of supervisors who work with both types of employee, plannable work is heavier and dirtier, assigned posts are more desirable and generally involve greater skill and responsibility. These opinions were solicited by a brief exploratory questionnaire prior to the analysis of the results of the main study. This was done in an attempt to clarify certain key points which various managerial informants reported differently in early scouting interviews. Plannable and assigned supervisors were chosen to fill out the preliminary questionnaire by an internal change agent on the basis of their familiarity with plannable and assigned wage-earners. Table 1 summarizes these managerial opinions. The differences reported in Table 1, as well as the structural differences outlined above, may have contributed to differences obtained in the social psychological measurements made. This problem will be discussed further after the results are presented.

The independent variable was thus work group structure. This study was not experimental since no variable was manipulated. The populations examined had become structurally dissimilar as a result of "natural" causes years before the investigator arrived on the scene.

Data for the main body of the study were collected from 151 plannables in one department and 582 assigned employees in two departments.

Measures

Machine scorable paper-and-pencil questionnaires were administered throughout the refinery during one week in the Spring of 1968. Employees in this maintenance division filled out the instrument on company time. The questionnaire was composed of 112 "core" items developed at the Institute for Social Research for use in longitudinal research in organizations. In addition, 43 experimental questions, not included in the present analysis, were appended in this particular administration of the instrument. Items are answered by selecting an alternative on a Likert scale.

The questionnaire is designed to tap causal, intervening, and end-result variables in order to measure the impact of supervisory practices upon the behavior of subordinates and, eventually, upon organizational outcomes. The three classes of variables can be briefly defined as follows:

TABLE 1

Supervisory Rankings of Plannable and Assigned Wage-Earners

Characteristic	Plannable Supervisors N=9		Assigned Supervisors N=16		Total N=25	
	Plannable is higher	Assigned is higher	Plannable is higher	Assigned is higher	Plannable is higher	Assigned is higher
Level of technical skill	2	6	1	13	3	19
Ability to accept responsibility	2	6	1	15	3	21
Knowledge of the job	2	7	0	15	2	22
Getting along well with fellow employees	5	3	1	11	6	14
Getting along well with supervisors	1	7	1	12	2	19
Loyalty to company	1	5	0	14	1	19
Concern for doing a good job	1	6	0	15	1	21
Chances of ever being promoted to supervisor	6	3	2	10	8	13
Capacity for doing good work when not closely supervised	0	9	1	15	1	24
Ability to keep doing a good job even in the face of unexpected changes	4	5	1	14	5	19
Seniority	0	8	0	11	0	19

Responses to items asking respondents to indicate which type of employee is higher on each given characteristic. Entries in cells represent the number of supervisors in a grouping that ranked plannable or assigned employees higher. (Where numbers for a pair of cells do not add up to N, this is because some supervisors did not answer all items, or indicated a response of "no difference.")

Causal variables include those which can be altered by the organization and its management and which determine the course of developments within an organization and the results achieved by it. In the present study the causal variables measured by means of the questionnaire include management's leadership strategies, skills, and behavior

Intervening variables reflect the quality of the internal functioning of the organization. They include the amount and quality of leadership behavior occurring among peers at all levels in the organization, their motivations, and their collective capacity for effective communication, decision making, coordination, and control.

The *end-result variables* are the dependent variables which reflect the achievements of the organization, such as its productivity, costs, earnings, and the satisfactions it provides to its members. Productivity and related performance data were not available for the present analysis, but questionnaire measures of employee satisfaction provide some indication of results being achieved in maintaining the loyalty and commitment of the organization's members.

The level or condition of the intervening variables is produced largely by the causal variables. The intervening variables in turn have an effect on the end-result variables. These causal relationships occur over extended spans of time. For further elaboration of these variables see Likert (1967).

For the questions pertaining to the leadership dimensions of support, goal emphasis, work facilitation, and interaction facilitation, each respondent is asked to tell 1) how it is now, and 2) how he would like it to be. These dimensions are defined by Bowers and Seashore (1967) as follows:

1. *Support*: behavior which serves the function of increasing or maintaining the individual member's sense of personal worth and importance in the context of group activity;

2. *Interaction Facilitation*: behavior which serves the function of creating or maintaining a network of interpersonal relations among members of the work group;

3. *Goal Emphasis*: behavior which serves the function of creating, changing, clarifying, or gaining member acceptance of group goals;

4. *Work Facilitation*: behavior which serves to provide effective work methods, facilities, and technology for the accomplishment of group goals.

Bowers and Seashore (1966) have reported evidence of the usefulness of these leadership dimensions in predicting some aspects of organizational effectiveness.

Appendix A is the questionnaire used. The item numbers used in reporting the data in the next section correspond to the numbers of the questions in Appendix A.

RESULTS

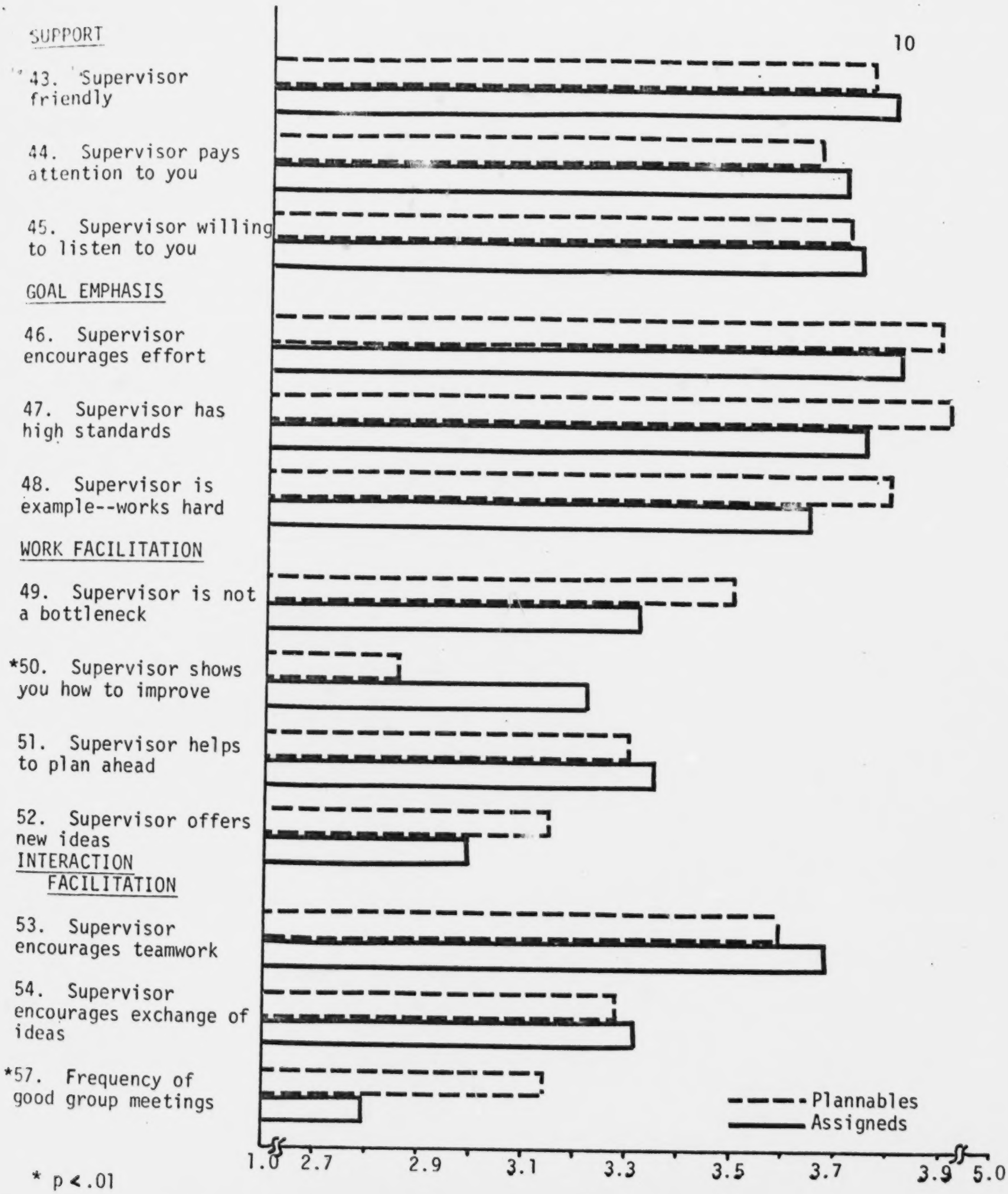
Mean scores and variances were computed for each item for plannables and assigneds separately. Indices were formed for major causal, intervening, and end-result variables by clustering different items that measure the same variable. Differences between plannables and assigneds were tested for significance by means of two-tailed t-tests. Below the differences and similarities are analyzed in detail. The data are organized in a sequence of causal, intervening, and end-result variables, in an attempt to facilitate the perception of a consistent pattern.

Causal Variables

Figure 1 shows the mean responses for plannables and assigneds to a total of 13 items comprising four supervisory leadership indices. The bars in the graph show that the assigneds scored higher on all three supervisory support questions, and the plannables scored higher on the three supervisory goal emphasis items.

Perhaps this reflects a difference in time perspective. Since assigned supervisors have a long-term relationship with their subordinates, and support is most useful for building up a successful extended collaborative relationship, immediate goals are not pushed as hard. On the other hand, knowing that his relationship with any particular grouping of subordinates is highly circumscribed in time might lead the plannable supervisor to lay greater emphasis on immediate goal achievement and to regard support as secondary since it is an investment whose pay-off will go to someone other than himself. The above is highly speculative and should be considered together with the other findings reported here, since none of these differences is large enough to reach statistical significance.

There is no interpretable pattern in the four items comprising the supervisory work facilitation index. However, there is a fairly large and highly significant difference between plannables and assigneds in response to the question "To what extent does your supervisor show you how to improve your performance?" Table 2 shows that when asked to what extent they would



* $p < .01$

FIGURE 1. MEAN RESPONSES OF PLANNABLES AND ASSIGNEDS TO ITEMS IN FOUR SUPERVISORY LEADERSHIP INDICES

TABLE 2

Comparison of Mean Scores of Plannables to Assigneds on Item 50

	Plannables	Assigneds	Difference
Actual	2.86	3.23	-0.37*
Ideal	3.86	3.99	-0.13 ns
Gap	1.00*	.76*	

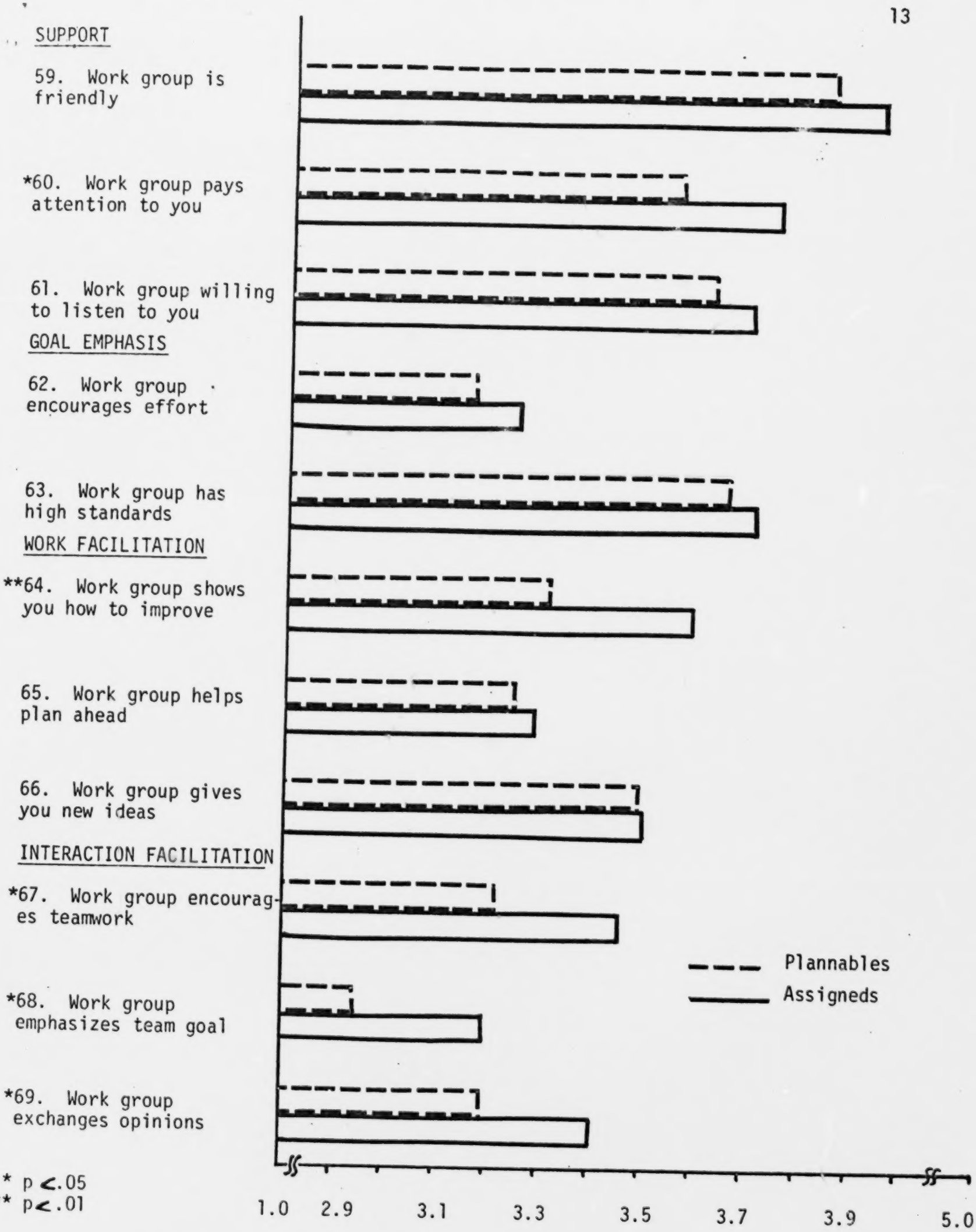
*P<.01

Q. 50: To what extent does your supervisor show you how to improve your performance?

like their supervisors to show them how to improve their performance, the plannables' mean response was a whole point higher than their response to how it is now, where as the assigneds mean response to the ideal was only .76 higher than their ideal. Thus, the plannables perceive a greater gap between the way things are now and the way they would like them to be than do the assigneds on this item. In the preliminary questionnaire, Table 1 shows that 19 out of 22 supervisors agreed that assigneds have a higher level of technical skill and 24 out of 25 supervisors reported that assigneds have greater capacity for doing good work when not closely supervised. Yet the plannables more than the assigneds feel that their supervisors do not show them how to improve their performance. This might be a result of the lack of stable relationships among plannables, so that opportunities for training or sharing of skills are limited.

The Supervisory Interaction Facilitation Index in Figure 1 shows that although assigned supervisors encourage (insignificantly) more teamwork and exchange of ideas among their subordinates, plannable supervisors hold group meetings significantly more often. Considering the structural situation of the plannables, however, it is not surprising that plannables have more group meetings. Since the temporary and changing nature of plannable groupings does not allow for the development of a group tradition, or automatic performance of role behavior, frequent meetings would seem to be much less dispensible there than in the assigned situation where changes occur less frequently and past ways of doing things more readily transfer from one time period to the next. Thus, one interpretation of the finding that plannables have more frequent meetings is that meeting is a necessity imposed on them by their more complexly structure situation. Another possible explanation is that the assigned supervisors do not take full advantage of their work group setup by having more frequent group meetings. Both of these explanations will be developed more fully below as more data are considered.

The data in Figure 1, taken as a whole, show that overall there are not large and consistent differences between plannable and assigned supervision. In contrast, the data in Figure 2 show consistent and significant differences between plannable and assigned peer leadership measures. The peer leadership indices and the items used to measure them parallel those pertaining to supervisory leadership behavior just discussed.



* $p < .05$
** $p < .01$

FIGURE 2. MEAN RESPONSES TO ITEMS IN FOUR PEER LEADERSHIP INDICES

Figure 2 shows that the assigneds are higher in all eleven items measuring peer leadership, and significantly higher in five of them, including all three items measuring peer interaction facilitation. It can be argued that this consistent superiority of the assigneds over the plannables in peer leadership, and especially in interaction facilitation, is a consequence of the structural differences between them. The face-to-face work group provides the assigneds with a medium through which they can exercise peer leadership, particularly regarding their interaction facilitation. But plannables, lacking the work group medium, cannot readily facilitate their own interaction. Therefore, plannable supervisors must furnish a medium; one such medium is the more frequent meetings they hold. However, the consistently lower values for plannables on peer support, goal emphasis, work facilitation, and interaction facilitation indicate that the group meeting is not as effective as a stable work group structure in fostering peer leadership. Also, as pointed out above, Figure 1 shows that having more group meetings did not make the plannables think that their supervisors encourage more team work or encourage their subordinates to exchange ideas to a greater extent than did the assigneds.

Item 64 shows a highly significant difference that parallels its supervisory leadership counterpart. Thus, neither supervisors nor peers show plannables how to improve their performance to as great an extent as assigneds.

Figure 3 shows the results for an index combining three items that measure the extent to which supervisors employ group methods of supervision. The differences are small and none is statistically significant. These data support the explanation above that assigned supervisors do not utilize their work groups as a setting in which to employ group methods to dip into group resources. The alternative explanation, that plannables use group methods despite the lack of a stable face-to-face group structure, cannot be dismissed on the basis of present data. The finding that plannables have more frequent group meetings supports the latter explanation. Of course, both explanations could be valid, each one operating so as to mitigate the discrepancy between plannables and assigneds that might have been predicted solely on the basis of the structural difference.

Employees were asked what they thought their immediate supervisors needed in order to be a better manager. Figure 4 shows that in two of seven such

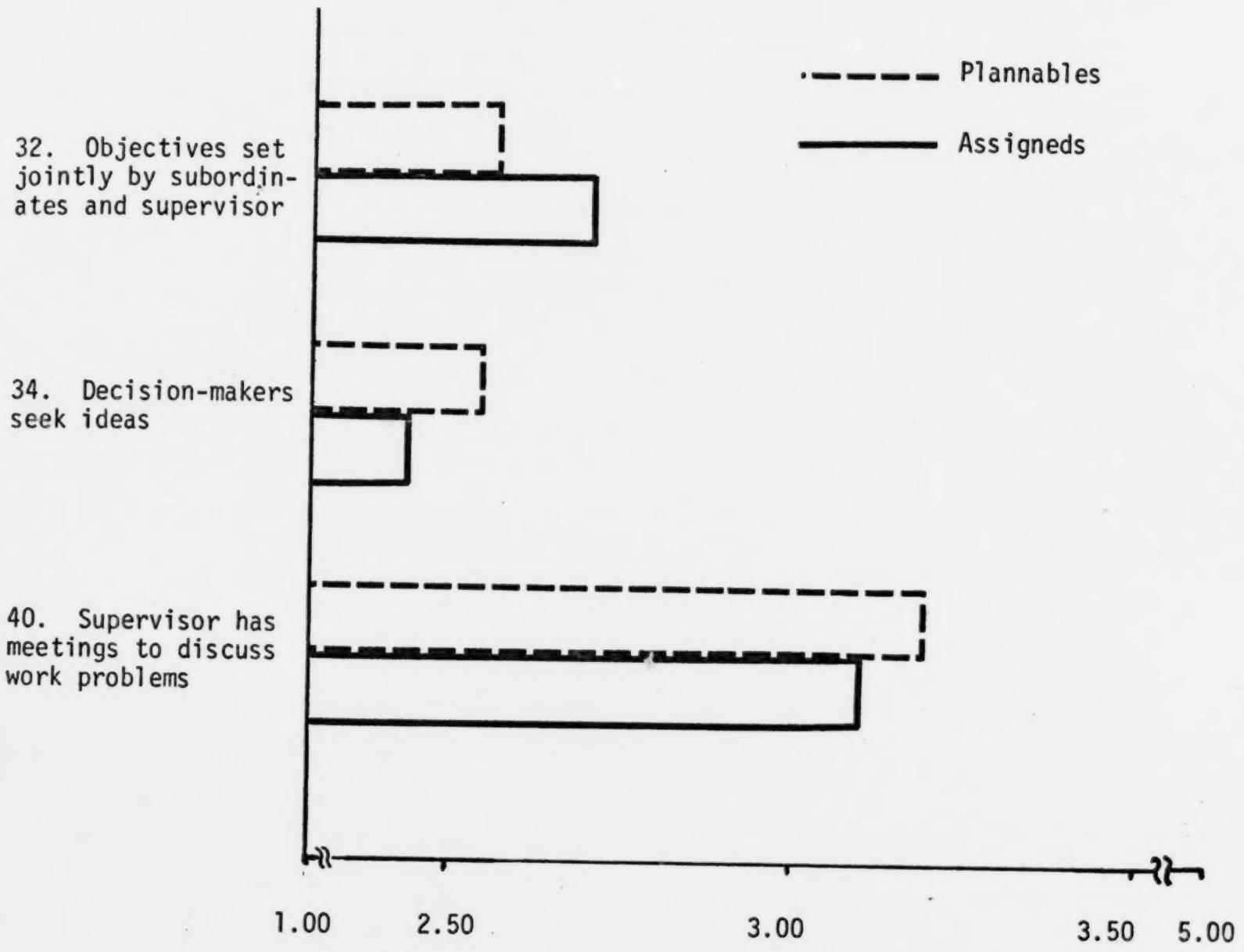
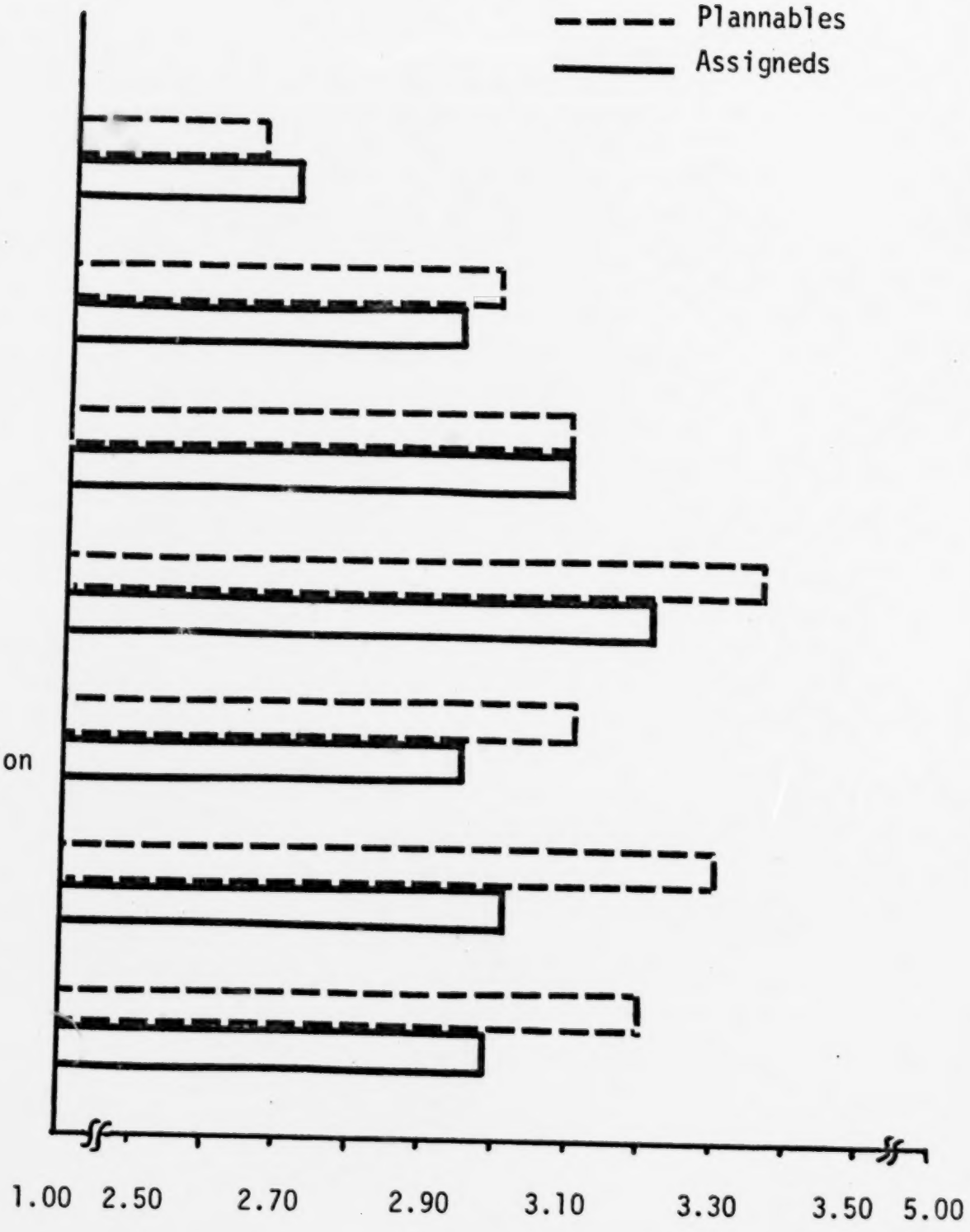


FIGURE 3. GROUP METHODS OF SUPERVISON


Plannables
Assigneds
58a. Supervisor needs information from subordinates
b. Supervisor needs information on management
c. Supervisor needs to change his priorities
d. Supervisor needs technical, administrative ability
e. Supervisor needs practice in using information
** f. Supervisor needs freer situation
* g. Supervisor needs concern for subordinates
1.00 2.50 2.70 2.90 3.10 3.30 3.50 5.00

* $p < .10$
** $p < .02$

FIGURE 4. SUPERVISORY DEFICIENCIES. (Higher score means subordinates perceived their supervisors as having less need in that area.)

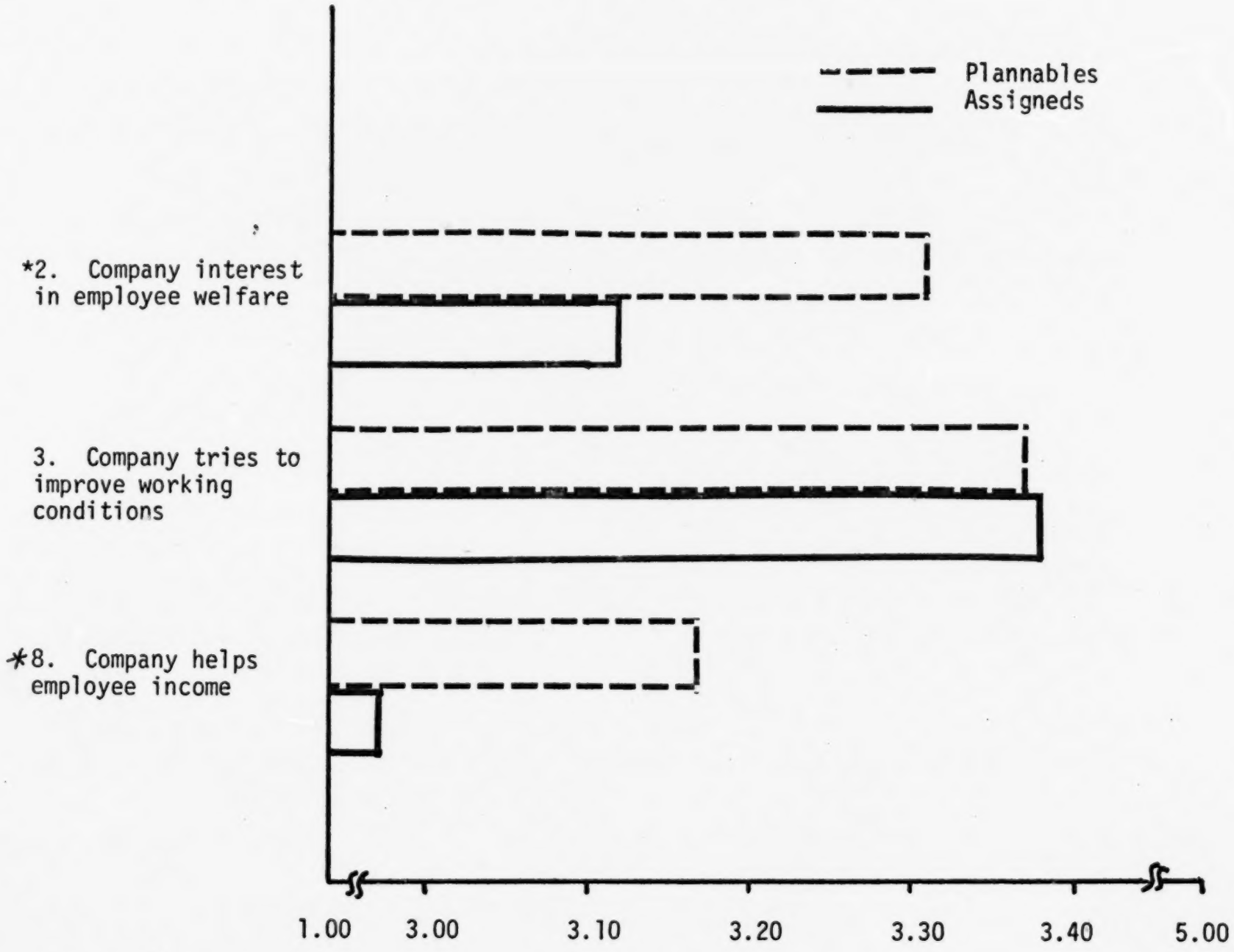
items the plannables perceived significantly less deficiency on the part of their supervisors. The assigneds more than the plannables feel their supervisors lack a situation that lets them do what they already know how to do and want to do, and need more interest and concern for their subordinates. The other five items in Figure 4 do not show significant differences.

The fluidity of structure in the plannable situation as compared to the assigned work group structure might explain why plannables see less need for a more free situation for their supervisors. Their situation is already more free than that of the assigned supervisors, since plannable supervisors, like their subordinates, are a pool of floaters without clear-cut work group structure.

The greater need for supervisory interest and concern reported by assigned subordinates is consistent with the data in Figure 5 showing that plannables scored significantly higher on two out of three questions asking about perceived managerial concern for employee welfare. (It should be borne in mind, however, that the referent of the questions in Figure 5 is the company rather than the immediate supervisor.) Apparently assigned supervisors are not utilizing the work group situation to show more concern for their subordinates.

The one item in which there is no significant difference between plannables and assigneds in the Managerial Concern Index asks about the extent to which the company tries to improve general "working conditions." As the data in Figures 6 and 7 show, none of the questions regarding technology and general administration yielded significant differences. It will be recalled that a similar item in Figure 4 concerning supervisors' ability to handle technical and administrative aspects of their jobs did not differ significantly. Nor was there a significant difference on the items shown in Table 3 concerning level of peers' and supervisors' technical skill.

Mann's (1965) concept of skill mix is useful here. The data show that the level of technical and administrative components of managerial behavior are perceived similarly by plannables and assigneds. The differences between perceptions of plannables and assigneds are all in the human relations or social psychological components of managerial behavior. We now turn to an analysis of the intervening variables to see what some of the consequences are--and are not--of the structural difference between plannable and assigned organization.



* p < .10

FIGURE 5. MANAGEMENT CONCERN INDEX

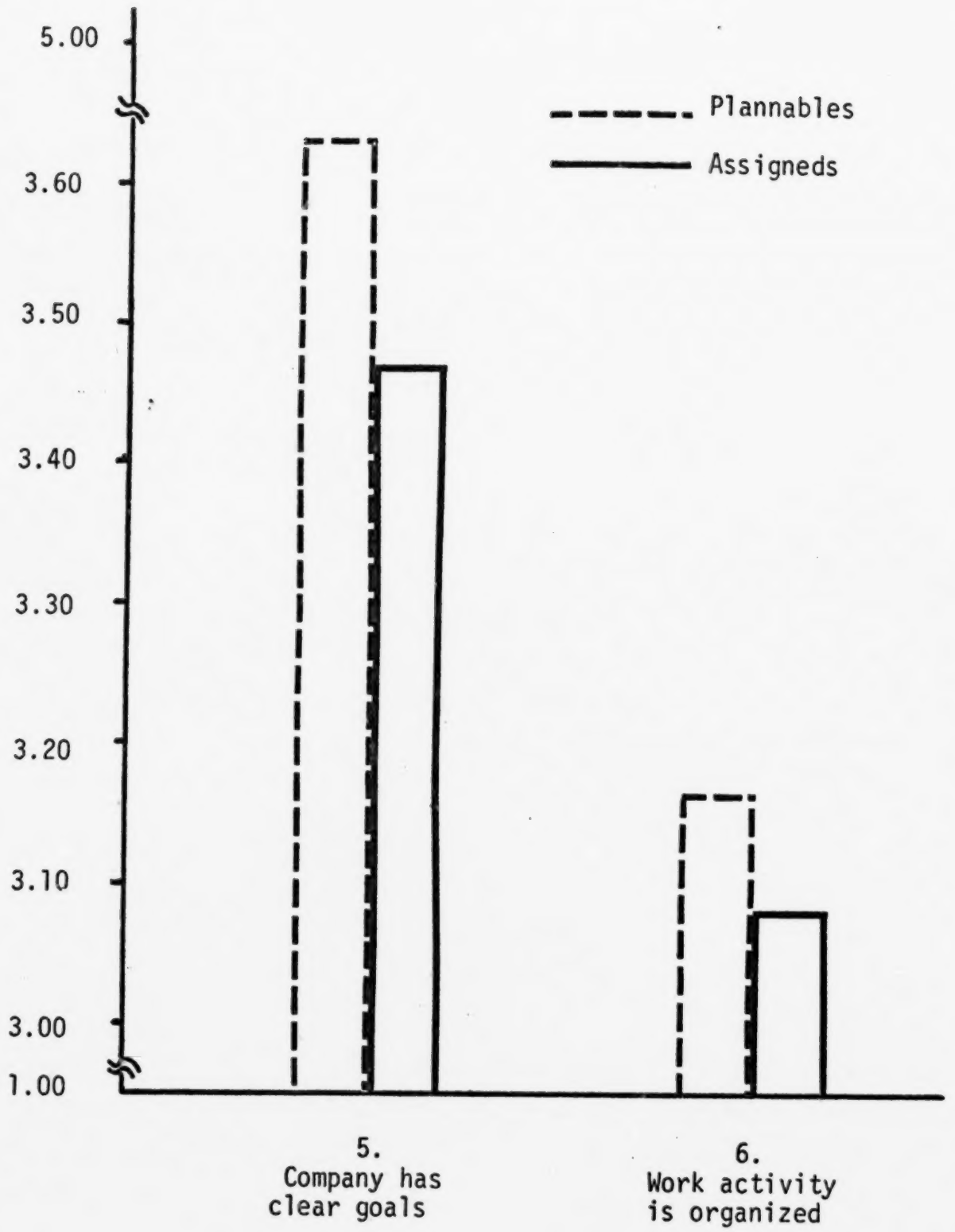


FIGURE 6. GENERAL ADMINISTRATIVE MANAGEMENT

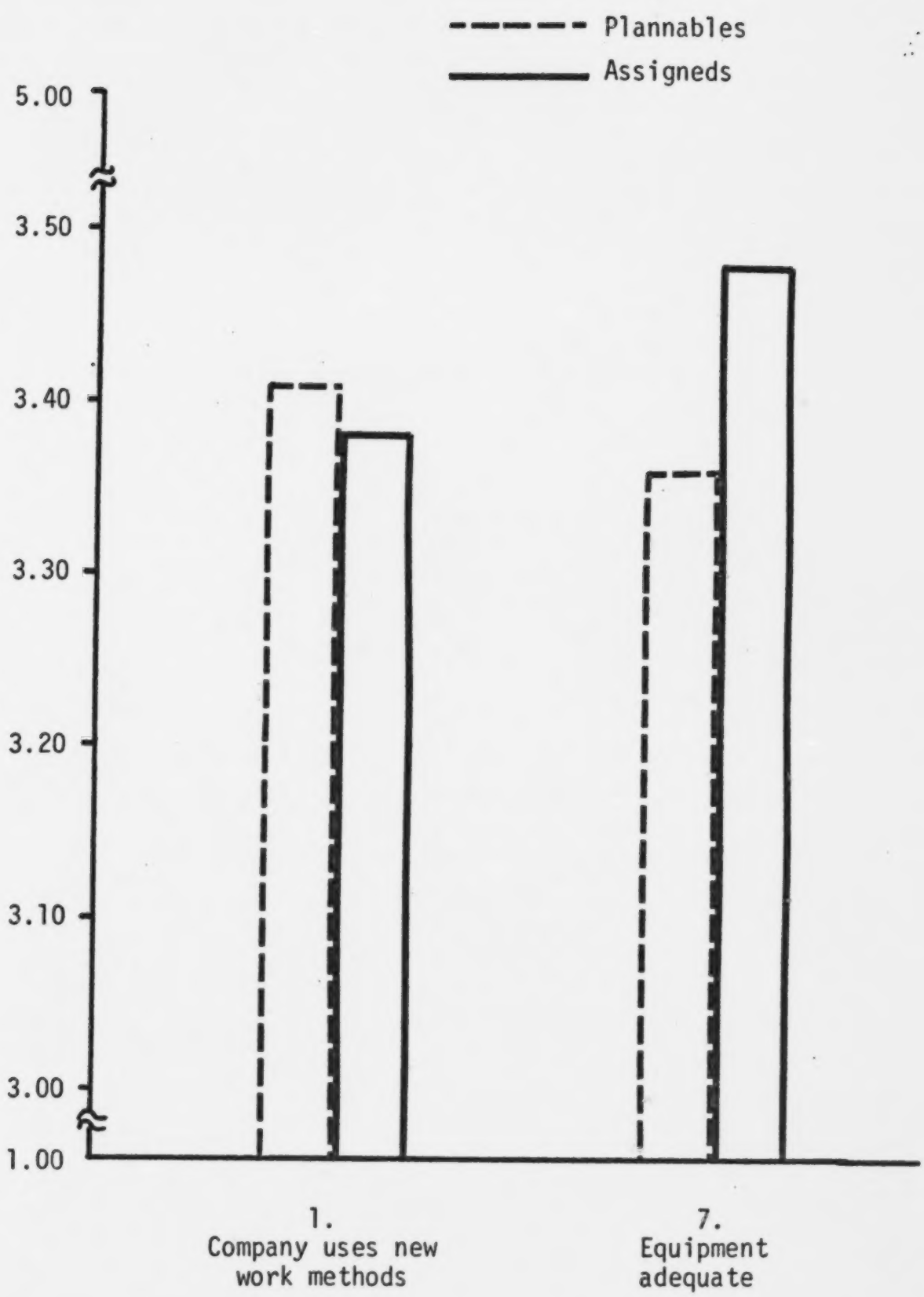


FIGURE 7. ADEQUACY OF TECHNOLOGY

TABLE 3

Comparison of Plannable and Assigned Mean Scores on
Items Concerning Technical Skill of Peers and Supervisors

	Plannables	Assigneds	Difference
Item 4	3.80	3.90	-.10 n.s.
Item 41	3.53	3.56	-.03 n.s.

Q. 4: To what extent do persons in your workgroup know what their jobs are and know how to do them well?

Q. 41: To what extent does your supervisor handle well the technical side of his job--for example, general expertness, knowledge of job, technical skills needed in his profession or trade?

Intervening Variables

The similarity of mean responses of assigneds and plannables to the items shown in Table 4 indicates that the higher values of the assigneds on the peer leadership items were not followed by higher scores on the extent to which they report that work group members plan together and coordinate their efforts, make decisions and problem-solve well, and feel they belong to a working team. Nor do they rate their work group higher in perceived overall effectiveness. These incongruities will be discussed below.

Figure 8 shows that the plannables scored higher on both items included in the Conflict Handling Index. Thus, plannables were more likely to say that disagreements are accepted as desirable and are worked through, whereas assigneds were more likely to say that conflict is sometimes avoided or suppressed. Similarly, plannables were more likely to say that problems between departments are worked out at the level where they appear, or get resolved higher up in the organization, whereas the assigneds were more likely to say that such problems work themselves out over time, or never get resolved at all.

The data in Figure 8 might be evidence that work group structure is not enough to guarantee effective conflict handling. Indeed, work group structure may hinder conflict resolution. Another possibility is that there is much more conflict built into the plannable role due to its uncertain structure, and that this has led to adapting better ways of handling such conflicts by the plannables. This cannot be determined from the data collected.

The latter explanation might be applied also to the data on interdepartmental coordination in Figure 9. The plannables exceed the assigneds in all three items, the differences being significant in two of them. It seems reasonable to expect that the complexities of coordination generated by the plannable structure would either cause severe disruptions and inefficiencies, or stimulate learning of highly effective ways of dealing with problems of coordination.

The other explanation for the lower scores of the assigneds on several of these indices would be that work group structure is dysfunctional for certain intervening variables that involve relationships with other organizational units outside of the face-to-face work group.

TABLE 4

Comparison of Mean Responses of Plannables and Assigneds to Questions Measuring Intervening Variables Relevant to Peer Group Functioning

Item No.	Plannables	Assigneds	Difference
70	3.22	3.32	-.10 n.s.
71	3.65	3.70	-.05 n.s.
72	3.61	3.74	-.13 n.s.
80	3.89	3.94	-.05 n.s.

Q. 70: To what extent do members of your work group plan together and coordinate their efforts?

Q. 71: To what extent does your work group make good decisions and solve problems well?

Q. 72: To what extent do you feel that you and the other persons in your work group belong to a team that works together?

Q. 80: On the basis of your experience and information, how would you rate your work group on effectiveness? How well does it do in fulfilling its mission or achieving its goals in comparison with other work groups in the company?

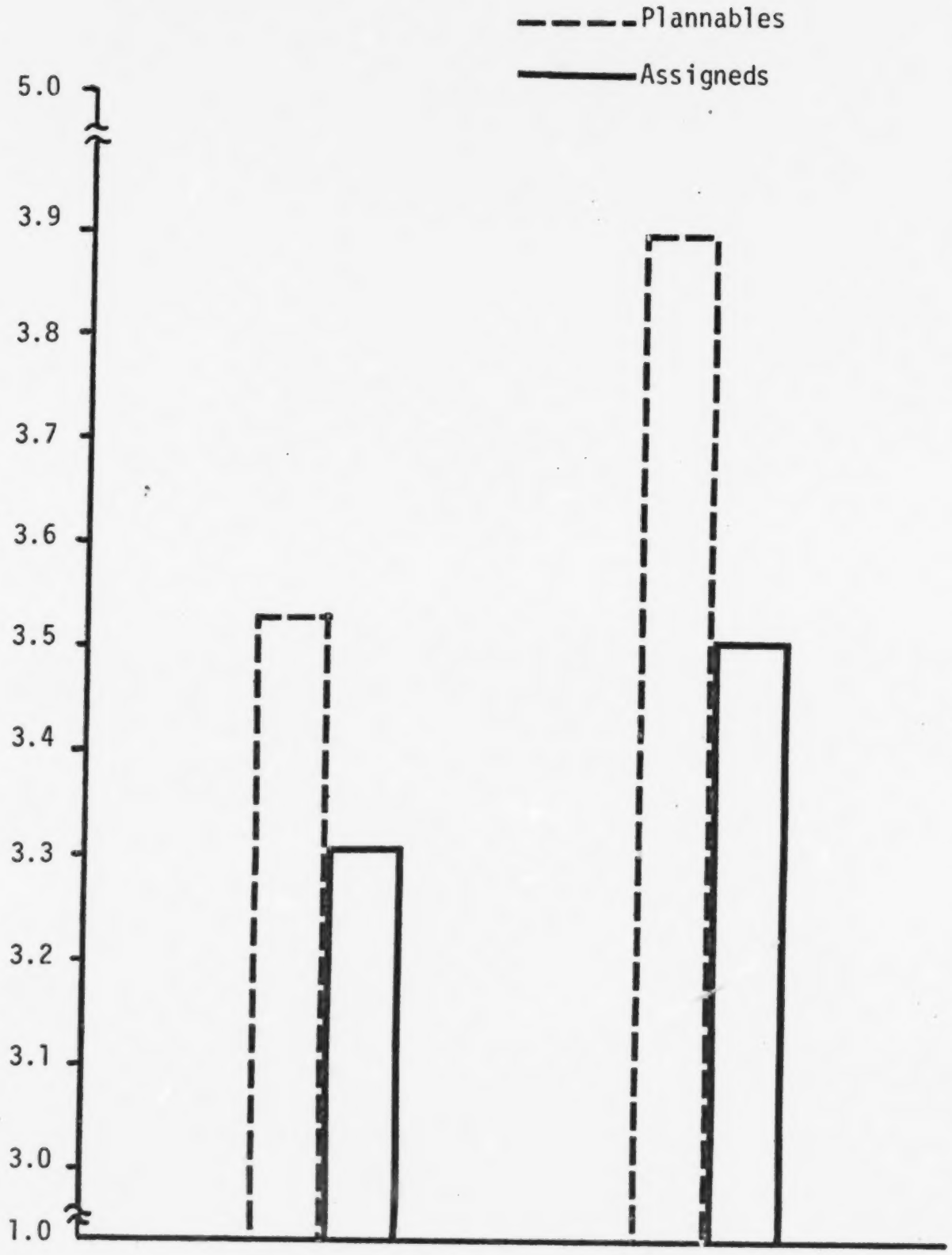


FIGURE 8. CONFLICT HANDLING INDEX

* $p < .05$
** $p < .01$

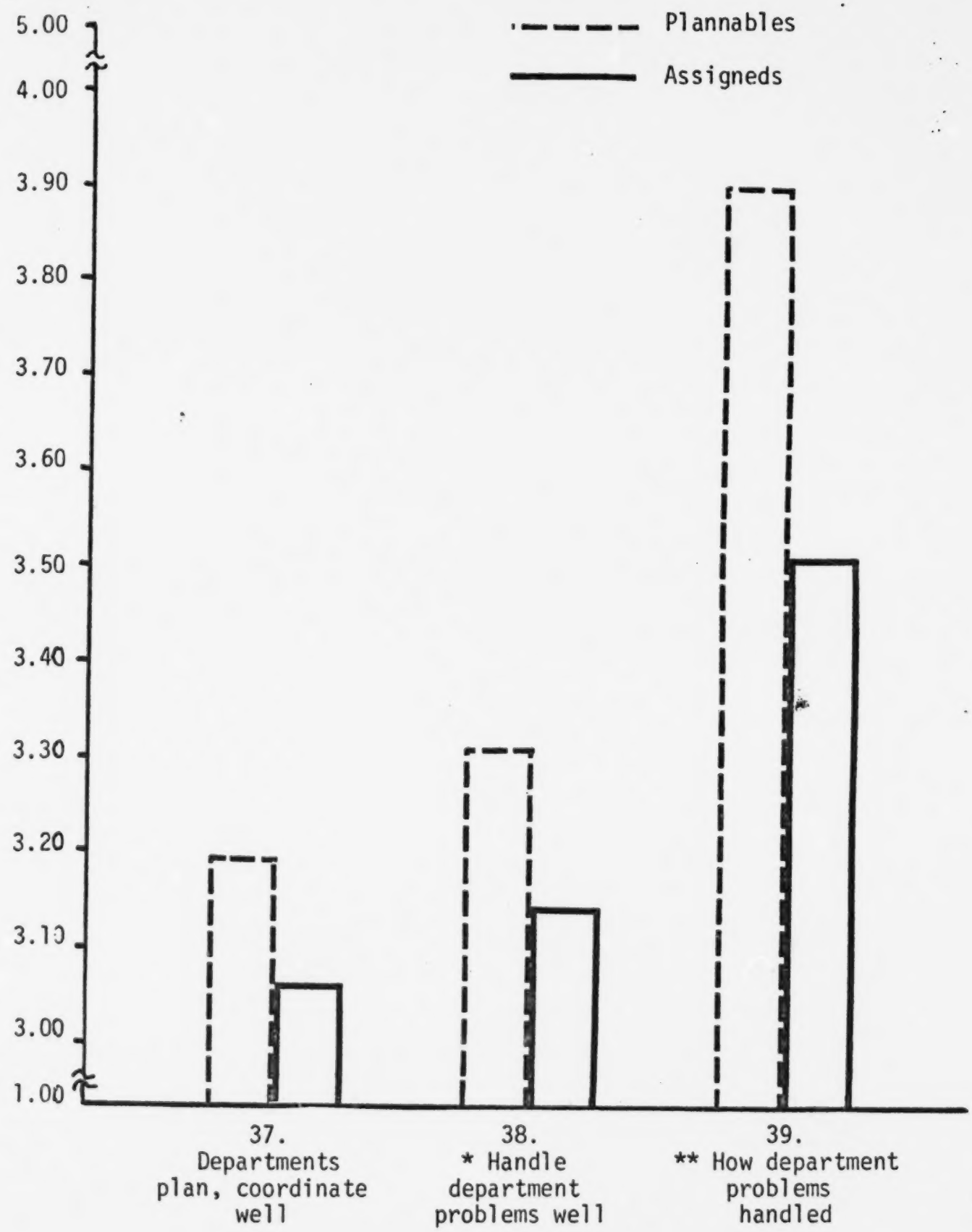


FIGURE 9. INTERDEPARTMENTAL COORDINATION INDEX

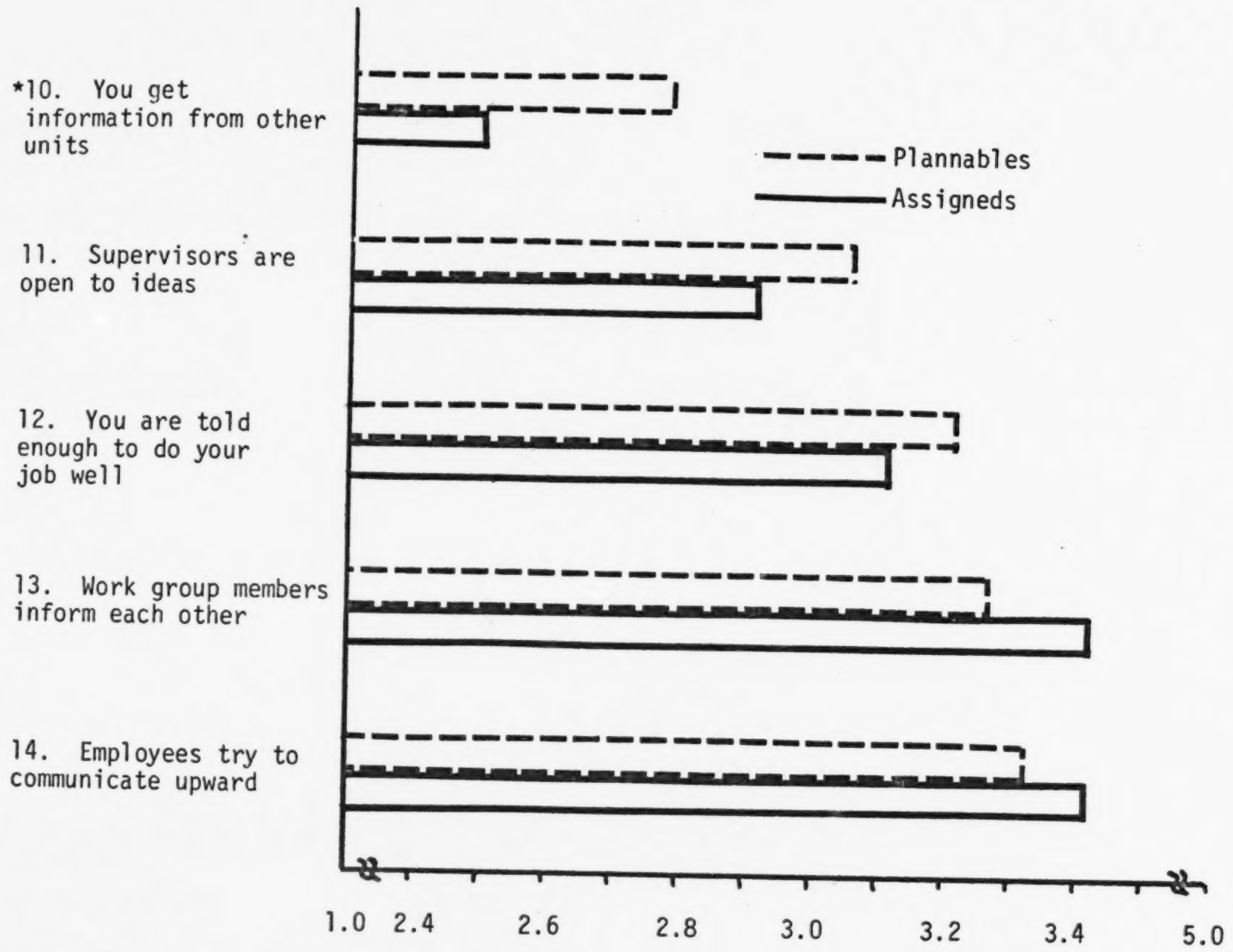
* $p < .10$
** $p < .01$

The same interpretations might be applied to the only question in the Communication Index that yielded a significant difference, graphed in Figure 10. The unstable plannable structure might be expected to present serious obstacles to effective communication, when compared to the more stable assigned work group structure. The plannables might have adopted means of communication that overcome these obstacles. Or the work group structure of the assigneds might interfere with communication with other departments and shifts. The plannables feel that they get significantly more adequate information about what goes on in other departments or on other shifts. In spite of what would appear to be structural advantages of work groups for establishing adequate communication, the data in Figure 10 show that the assigneds do not significantly differ from the plannables in upward communication, downward communication, and horizontal communication within the work group. In the next section these "significant similarities" between the plannables and assigneds will be discussed more fully.

The Motivation Index (Figure 11) and the Decision-Making Index (Figure 12) each have one item on which the plannables significantly exceed the assigneds. Thus, the plannables feel to a greater extent than the assigneds that people, policies, or conditions encourage them to work hard. But there is no difference between plannables and assigneds on enjoyment of job-task performance, looking forward to coming to work, and the number of motives that make people work hard. The plannables feel that decision makers are more aware of problems at lower levels in the company, but plannables and assigneds do not differ significantly in the extent to which they report lower level participation in decision making.

The index composed of three questions measuring trust climate also shows significant similarities. Figure 13 shows no significant differences between plannables and assigneds in hierarchical trust. Even more meaningful is the lack of a reported difference in confidence and trust in the work group.

Organizational Control is the total amount of influence exercised over what goes on in an organization. It is measured by asking respondents to describe the amount of influence exercised by each of several hierarchical levels in the organization. Total control has been found (Tannenbaum, 1968) to correlate with measures of organizational effectiveness. The distribution of control indicates the relative amount of influence exercised by different



* $p < .01$

FIGURE 10. COMMUNICATIONS INDEX

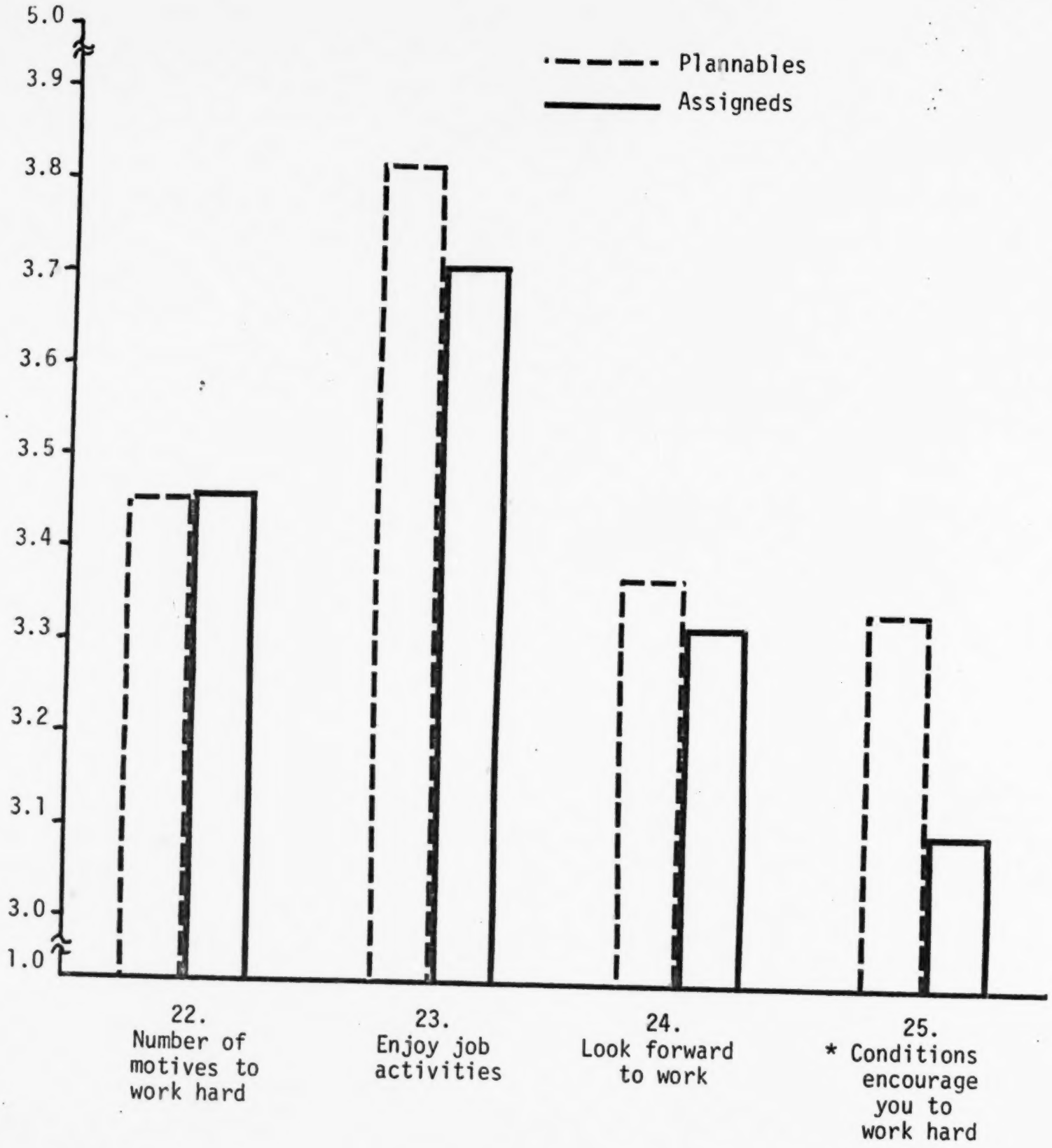
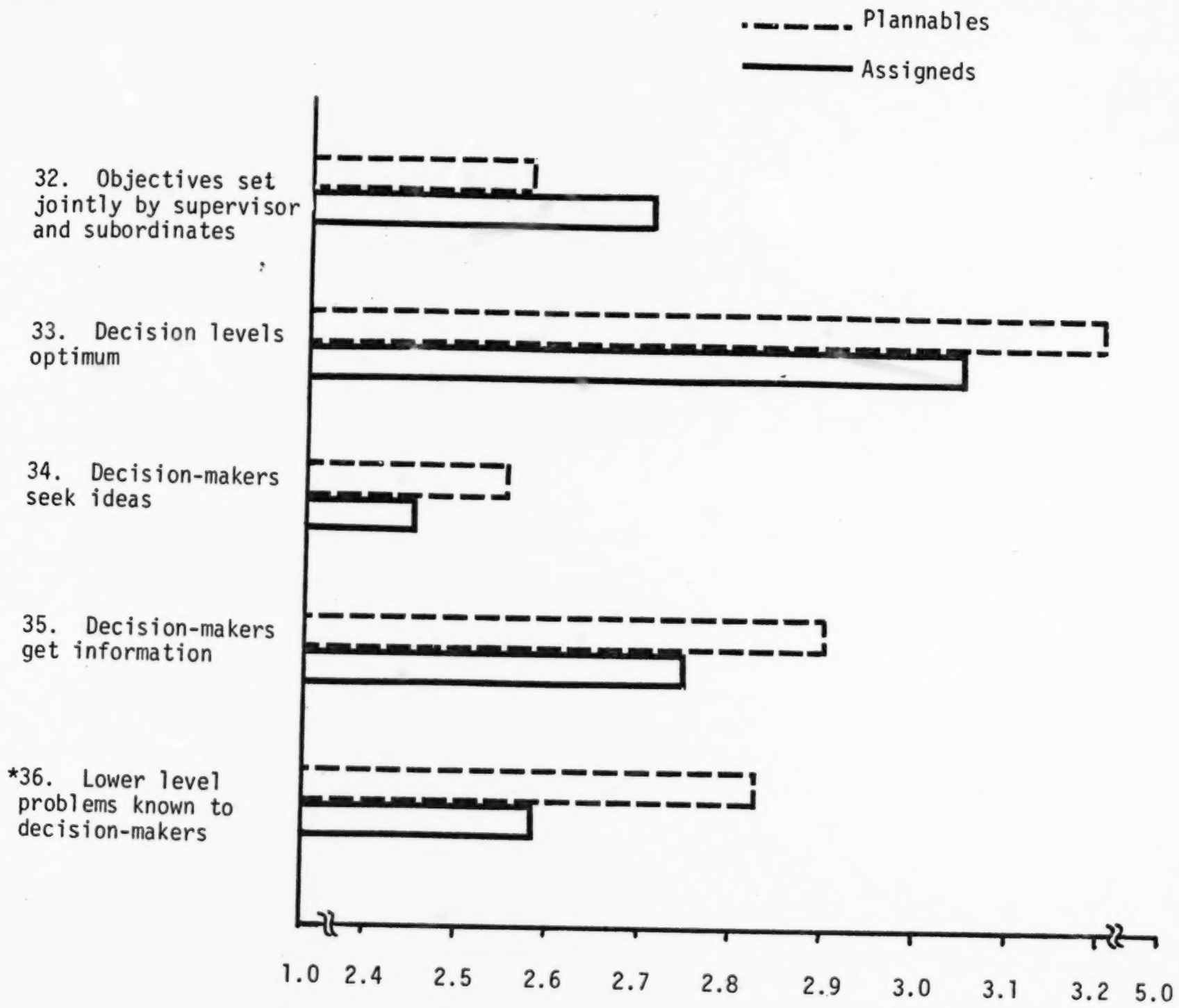


FIGURE 11. MOTIVATION INDEX

* $p < .05$



* $p < .025$

FIGURE 12. DECISION-MAKING INDEX

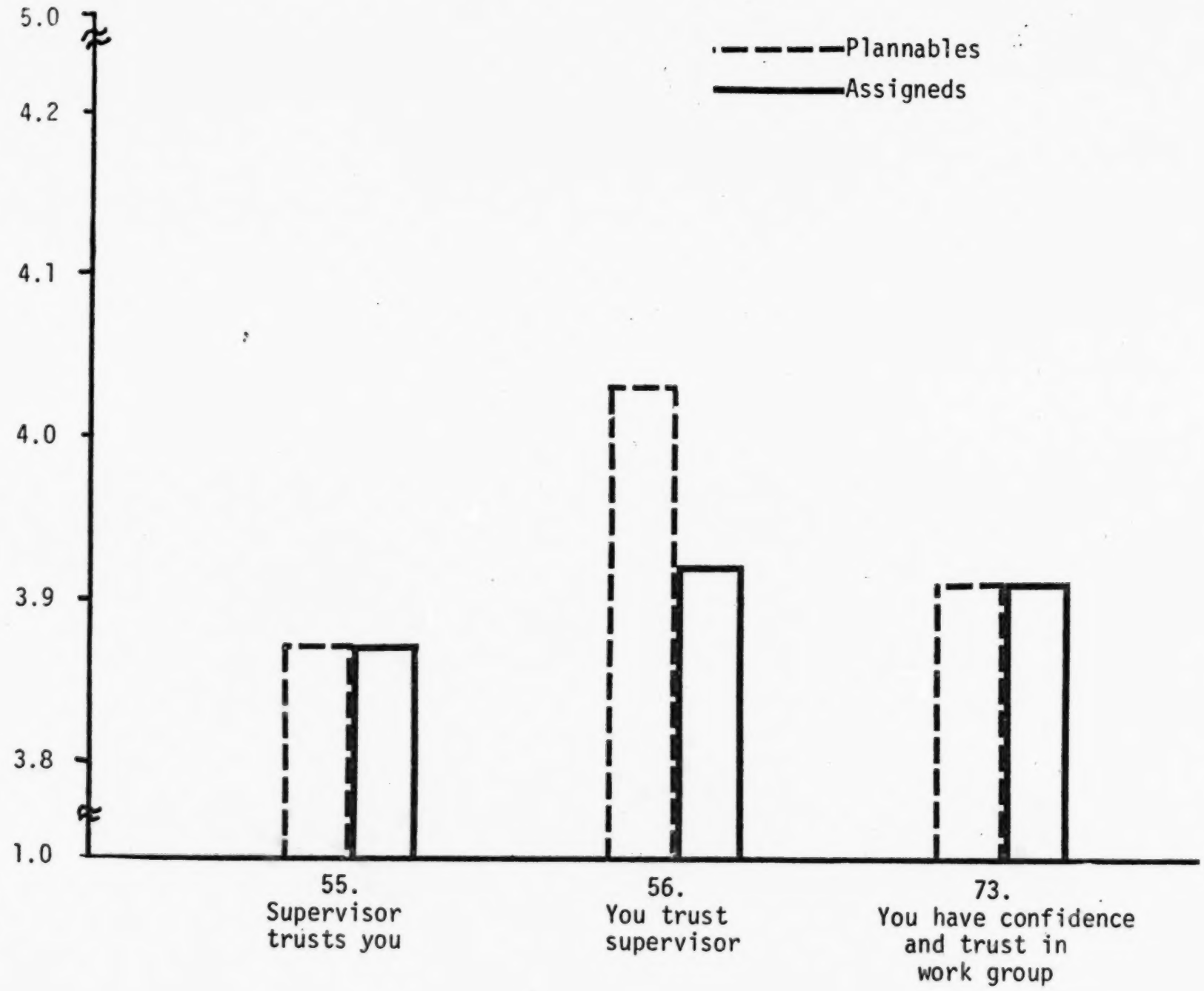


FIGURE 13. TRUST CLIMATE INDEX

hierarchical levels. Figure 14 shows that the plannables and assigneds reported virtually the same amount of total control, but differed in significantly the distribution of control. The plannables attributed less say or influence to the first level of supervision and more say or influence to top management.

It is not surprising that the diffuse and changing plannable structure should be associated with attribution of less control to first-level supervision, since tight control by a supervisor under such structural conditions would be much more elusive. Perhaps the reduced control at this level is made up for by the long-range planning and scheduling of work for plannables by higher levels of management. This may explain the significantly greater influence attributed to top management by plannables than by assigneds. This difference is especially interesting since the top management of the plannables and assigneds is made up of the same persons. The plannable and assigned departments are part of the same division, and are capstoned by the same higher management.

Finally, Figure 15 shows that the plannables report feeling significantly greater loyalty to the company and significantly greater responsibility to help achieve the success of the company. These results should be compared to the supervisory data reported in Table 1, showing that 21 out of 24 supervisors consider the assigneds higher in ability to accept responsibility, 19 out of 20 regard the assigneds as higher in loyalty to the company, and 21 out of 22 supervisors report that plannables have greater concern for doing a good job.

End-Result Variables

Figure 16 shows that the plannables reported being significantly more satisfied with the company. This fits well with the Commitment to Company findings in Figure 15. The dip in satisfaction with pay is typical in industrial organizations. However, the lack of difference between plannables and assigneds in satisfaction with work group is another "significant similarity" to be considered below.

Figure 17 shows no significant differences on two items included in the questionnaire to measure mental health.

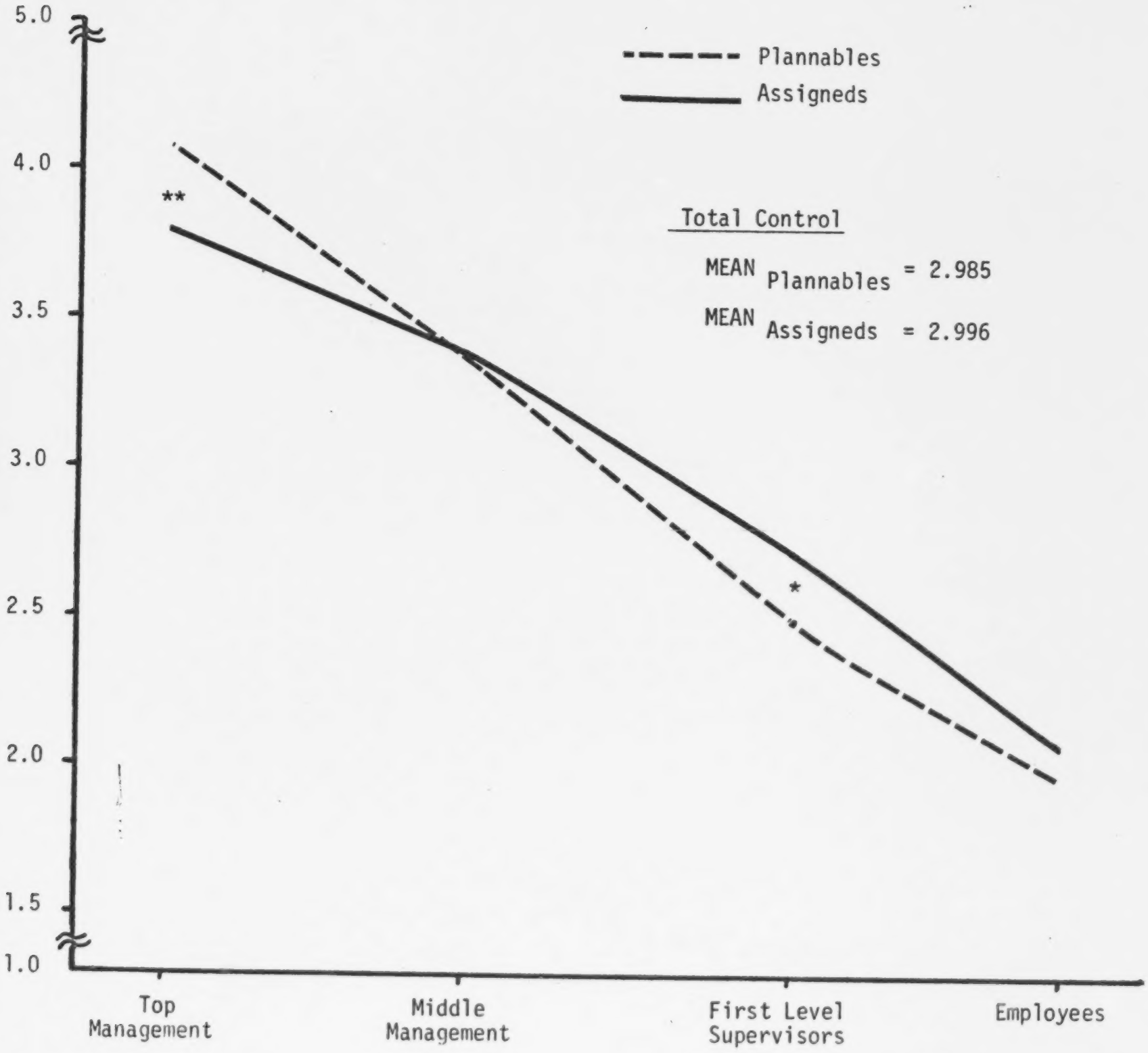


FIGURE 14. CONTROL INDEX

*p < .05
**p < .025

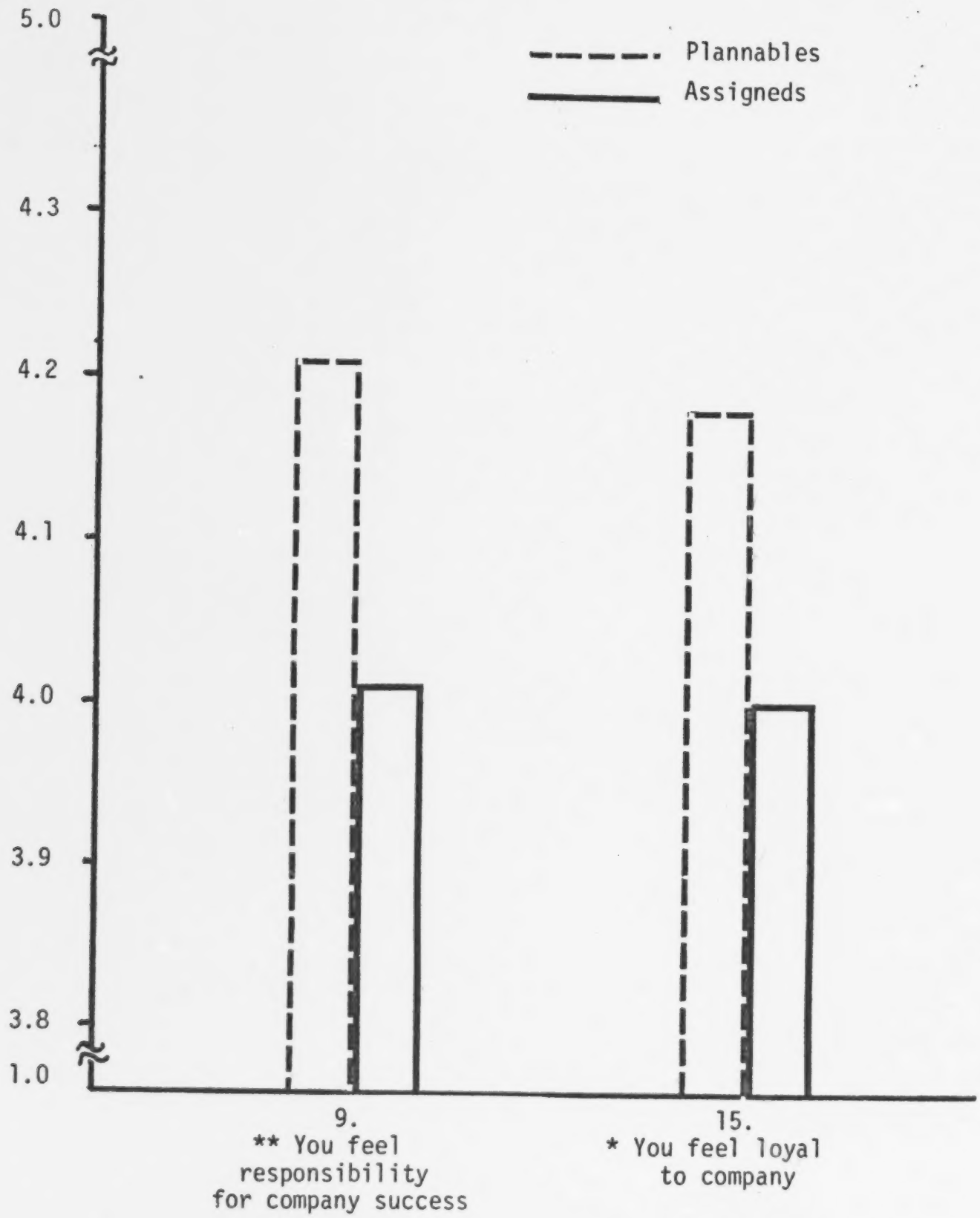
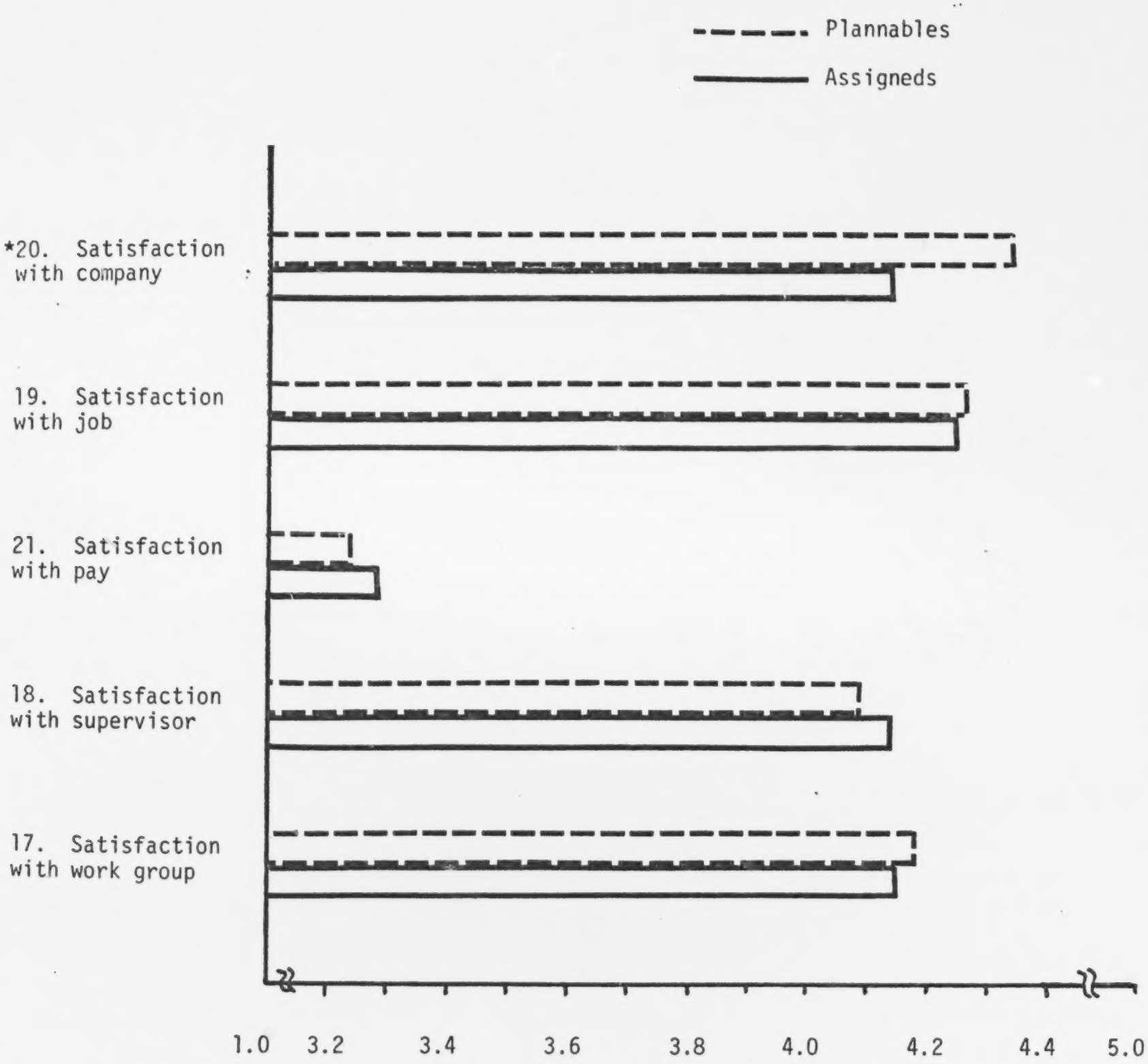


FIGURE 15. COMMITMENT TO COMPANY

*p < .10
**p < .05



* $p<.10$

FIGURE 16. SATISFACTIONS

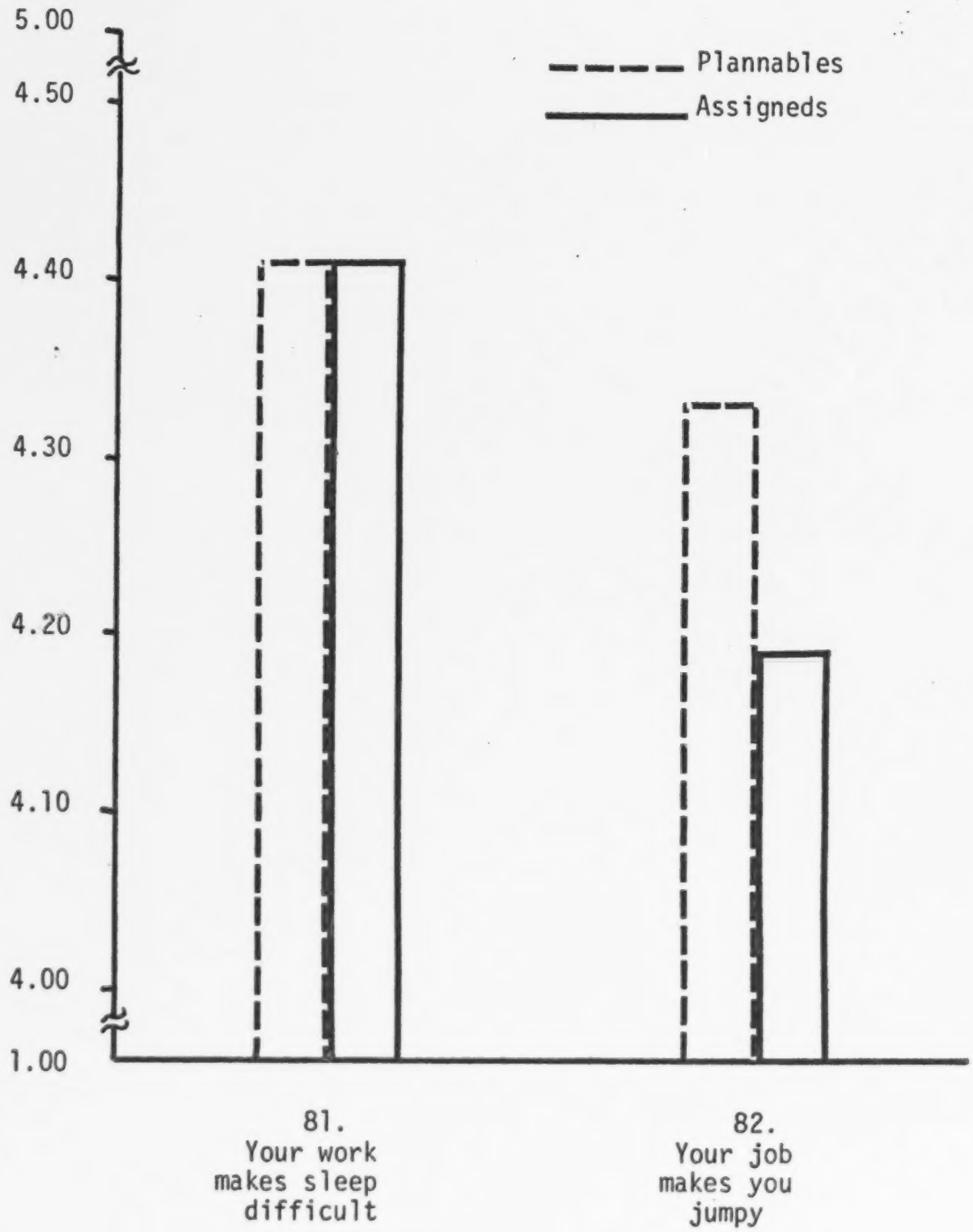


FIGURE 17. MENTAL HEALTH INDEX

A pattern

Several consistencies emerge from these data. These are summarized briefly here, and dealt with in the next section.

The assigneds are higher in peer leadership, while there is no clear pattern in supervisory leadership.

Items dealing with technology, administration, skill levels, and general working conditions yield no differences.

The plannables exceed the assigneds on all eleven significantly different intervening variables; the assigneds score higher on none.

Of the eleven significant intervening variables, six refer directly to the company, three concern affairs between departments, one asks about "things about working here." Thus, the plannables scored higher than the assigneds in system-wide variables.

Plannables and assigneds did not differ significantly in any intervening variables that are directly relevant to the face-to-face work group.

Plannables were higher in satisfaction with the company. No other end-result variable differed significantly.

DISCUSSION

The only consistent difference found in the causal variables was that the assigneds surpassed the plannables in all peer leadership items, and significantly in several of them. However, this finding can be almost regarded as a minimal requisite for continued acceptance of the questionnaire as a valid measuring instrument. On the basis of what was known about structural differences from exploratory observation of the site, had certain differences--especially in the causal variables--not been detected, then the validity of the questionnaire would have been cast into serious doubt.

The System 4 Hypothesis

The data on the intervening and end-result variables are more relevant to the hypotheses of interest since these variables are expected to be influenced by causal variables. The finding that the assigneds, who surpass the plannables in peer leadership, do not exceed them in work group relevant intervening variables as well, seems to disconfirm the System 4 hypothesis. The higher scores of the plannables in company-wide kinds of intervening variables adds to the disconfirmation.

Arguing Likert's case, it could be said that what has been shown is that a departmental structure lacking stable work groups can surpass the more traditional work group structure with respect to certain important organizational variables. But Likert has never claimed that work group structure *ipso facto* would be a sufficient condition to move an organization toward System 4, though he does regard it as a necessary condition.

Indeed Likert derived his System 4 formulations from a body of organizational research contrasting the most successful and the least successful managers. In all those studies, even the least effective managers had work groups reporting to them. None had a situation similar to the plannable supervisors in the present study. Thus, a System 4 explanation of the present findings would be that merely having a stable work group structure does not guarantee high level intervening and end-result variables. The data are simply evidence that the assigned supervisors are not exploiting the group resources available to them.

This explains the lack of difference between the plannables and assigneds on intervening variables relating directly to the work group, but not the lower scores of the assigneds on system-wide intervening variables. To this investigator the most reasonable interpretation of this combination of findings is that misusing or under-using a work group structure can be more damaging to the health of the organization, as revealed by measures of intervening variables, than not having a stable work group structure at all. Work groups lacking proper supervisory guidance are apt to be more injurious to the interests of the organization as a whole than a comparable population, under similar leadership, lacking a work group structure.

The Organic-Adaptive Hypothesis

The organic-adaptive hypothesis is supported by the finding that all significant differences show the plannables higher in the level of intervening and end-result variables. The data are mixed with respect to the specific organic-adaptive hypothesis that plannables would have reduced group cohesiveness. The lower scores of the plannables on all peer leadership measures confirm Bennis' notions. *The lack of any differences in the intervening* variables disconfirms both the System 4 and the organic-adaptive hypotheses.

It should be remembered that Bennis did not claim that the organic-adaptive model is generally more desirable, though the democracy implied by it would be. Rather, organic-adaptive structure would be imposed on the organization by the rapidly accelerating rate of environmental change. The work milieu of the plannables can be regarded as such an environment. But Bennis' ideas certainly deserve more of a test than one afforded by pitting the plannables, who resemble in some ways organic-adaptive structure, against a more normally constituted organizational unit, but one that shows clear evidence of not realizing full group potential. To test Bennis' organic-adaptive model the plannables should be compared in their level of functioning on intervening and end-result variables to a comparable unit with stable work group structure *which is clearly utilizing its work group structure to a great extent.*

Another caution in drawing inferences from these data to Bennis' ideas should be noted. Bennis seemed to be writing about the consequences for the organization brought about by rapid technological innovation. Oil refineries

are at the forefront of American industry with regard to technology. However, the plannables cannot be called "experts" who are brought together to solve technical problems. They are blue-collar wage earners with high school education and technical training in some area. In short, they are mechanics. Bennis seemed to be describing higher level employees, such as engineers or product development planners, or market forecasters, or others whom the organization would classify as salaried managerial types instead of hourly wage-earners. Though the plannable wage-earners are similar to the former in some respects, they are different in others. The present analysis makes the assumption that enough about the plannables is similar to the conditions described by Bennis to make their comparison to the assigneds valid for evaluating his ideas. This assumption can be disputed.

Thus, although there seems to be greater support in the data for Bennis' ideas than for Likert's, neither hypothesis was crucially tested, in the strict meaning of the word. This is largely due to design limitations. There is no standard for comparison of the two populations. Since they can be compared only to each other, two explanations are possible. The assigneds might be performing at a high level, and the plannables even higher. Or, alternatively, the plannables may be performing poorly, and the assigneds still worse. Since there are two populations measured at only one point in time, the resolution of the results is not unique. This is a shortcoming inherent in static research, and points to the general need for longitudinal designs in organizational research.

A more crucial test of the hypotheses would be possible if efforts to improve the intervening variables in both plannables and assigneds were undertaken and later comparisons made. Since for Likert the work group is an indespensable building block for organizational development, the assigneds should far outstrip the plannables in progress toward System 4 in an OD program. For Bennis, the plannables should be able to keep pace on all but group cohesiveness, but other intervening variables and overall effectiveness should improve under the impact of a change program.

The Mental Health Hypothesis

Among the determinants of role ambiguity discussed by Kahn *et al.* (1964, Chapter 5) are size and complexity of the organization, growth, and

technological change. The refinery studied in the present investigation is especially characterized by these sources of ambiguity. Also cited by Kahn *et al.* are frequent personnel changes. In their words,

> "Not only is employee turnover a general problem, but frequent transfers and reassignments within organizations are common. The early weeks of a person's new assignment, during which he is learning his role, are frought with ambiguity for him....Unfortunately for the solution of such problems, in some companies it is rare for a person and all his role senders to remain as an intact role set for more than a few weeks or months at a time. Changes in the personnel of nearly every set are sufficiently common to be the rule rather than the exception. Such changes constitute a major source of role ambiguity" (Kahn *et al*, 1964, p. 76).

The fit between this passage and the description of the plannables above is obvious. The plannables, with greater ambiguity inherent in their fluid structure, were not lower than the assigneds in satisfaction with the job, and were not lower in mental health. This is a failure to replicate the findings of Kahn *et al.*

There are several possible reasons for this. First, since ambiguity is a permanent fact of life for the plannables, they may have developed an immunity to its effects, or a higher threshold. It may be that *expecting the unexpected* reduces its stressful effects. Hypothesizing some mechanism that handles ambiguity and mitigates its stressful effects is consistent with earlier explanations of why the plannables do not lag behind the assigneds on intervening variables.

Another possibility is that the aggregate conflict and ambiguity of the assigneds, deriving in part from underutilization of group resources and social relations, are of such a magnitude that they counterbalance the conflict and ambiguity of the plannables, leading to no significant differences in the measured consequences of stress. Additional data would have to be collected in order to pin down differential sources of stress among plannables and assigneds in order to check the validity of these explanations.

Finally, the items used here to measure job-related stress differ from those employed by Kahn and his colleagues. Comparing our findings to theirs is an attempt at constructive replication, i.e., the hardest kind (Lykken, 1968). Unfortunately, in the present study role ambiguity was defined structurally only, and was not separately measured.

Managerial misperceptions

Managerial perceptions about plannables and assigneds, as reflected in Table 1, conflict sharply with the thrust of the questionnaire findings. Table 1 can be interpreted as showing a negative halo effect in managerial perceptions of plannables. (Table 1 might exaggerate perceived differences, since it includes only areas covered in the preliminary questionnaire. These areas were selected by the investigator because supervisors were unclear about them in preliminary scouting interviews, and differences between plannables and assigneds *were expected.* Nonetheless, it does seem clear that supervisors regard the assigneds as better all-around employees.) This could explain why the plannables reported being shown how to improve by their supervisors to a lesser extent than the assigneds. Perhaps their low opinion of their subordinates, coupled with the restricted opportunity for contact with them, leads plannable supervisors to neglect training, thinking that there is not much use trying to help plannables improve.

The gap between the managerial opinions in Table 1 and the differences revealed in the questionnaire data raises interesting and important issues. What criteria do the employees and the supervisors use in making organization-relevant judgments? Do supervisors perhaps resent the company-identification of the plannables? Is this related to the kind of hostility generally directed toward those regarded as cosmopolitans?

Differences in the perceptions of organization members by level are not new to the industrial literature. Kahn (1958), for example, found that persons at different levels in the company perceive the expectations and motivations of adjacent levels predictably differently. The data reported here are different, however, in that supervisors perceive differently two classes of employees *at the same level*, and of a magnitude that far exaggerates more detailed and systematically gathered information in the main body of the study.

This negative halo effect in supervisors' attitudes toward plannables can be explained as a structural effect. Since plannable supervisors work with different subordinates from time to time, they become less acquainted with individual employees than assigned supervisors, who can form deeper relationships with their men over the longer time period that they work with

them. The more shallow acquaintance of supervisors with plannables facilitates the formation of prejudices that don't get checked against reality. Thus, the well-known differences in perceptions across levels, cited above, may be accentuated in this department by the additional remoteness of plannables, compared to assigneds, from their supervisors. And this remoteness is a structural effect.

Hypothesizing a Coping Mechanism

Forehand and Gilmer (1964), in their review of the literature on studies of the effects of environmental variation on organizational behavior, state that though a number of studies have examined the influence of particular organizational variables, "few attempts have been made, either before or after the data are in, to posit a mechanism for such influence. Empirical studies, therefore, give few clues as to the nature of such mechanisms" (p. 369). In this section an attempt is made to posit such a mechanism. The *existence* of a mechanism can be inferred from the findings presented in the previous section, and was alluded to several times in presenting the data. However, the *nature* of such a mechanism is not revealed by the data presented.

The plannables gave no indication of being made uncomfortable by being asked to answer questions about "your work group." During questionnaire administration they were instructed to answer specific supervisory questions about "the supervisor you worked with most during the last month." The work group items are preceded with the following definition, printed on the questionnaire form: "In the questions below, work group means all those persons who report to the same supervisor." This definition is adequate for most data collection situations, but has seemingly obvious limitations for the plannables.

The problem is that it is not clear just what "your work group" meant to the plannables, and it is possible that it did not mean the same thing to all of them. Nevertheless, they responded coherently enough to yield the interpretable results presented above.

The informal organization may be at work here In response to the lack of formally constituted work groups, one result might be for the department to crumble. To avoid this, employees who feel loyal to the company and perceive it as generally interested in their welfare could maintain an informal

social structure that keeps things going. They can do this more effectively than front-line supervision, whose control is diminished by the same structure that necessitates the formation of the informal organization, and who by training are likely to regard the informal organization as a form of counter-productive goldbricking. Thus, it may be that the plannables are providing the essential fabric of their department *informally*, and this is reflected in the finding that the plannables, despite their structural disadvantage and lesser peer leadership, do not lag behind the assigneds on peer group intervening and end-result variables.

It is also possible that respondents' frame of reference in filling out the questionnaire influenced the data obtained. The items concerning "your work group" follow the questions asking about "your supervisor." Perhaps the frame of reference induced by the instruction to respond about "the supervisor you worked with most during the last month" carried over to the work group questions concerning "the people who report to the same supervisor" in such a manner that respondents had in mind all the people who, along with him, reported to Supervisor X most during the last month. Thus, when answering the peer leadership items, the plannables might have had in mind the particular collection of persons with whom they worked most during the past month, and these likely would not be the persons most important to them in their informal organization. Thus, due to the transferred frame of reference, the plannables might not have responded about the peer group in which most plannable peer leadership takes place. This would result in data underestimating the amount of plannable peer leadership. The assigneds, on the other hand, are likely to have an informal organizational structure that overlaps to a greater extent with their formal work group structure, such that the questionnaire measures would not likely underestimate total assigned peer leadership to as great a degree.

Though there are no reportable data relevant to this issue, the investigator's impressions from scounting the side support the notion of the informal organization. The majority of both plannable and assigned employees have been employed at this refinery since before the plannable structure was put into operation approximately a decade ago, and many have been with the company since World War II. Men who have shared so many years of experience on the job will undoubtedly continue to have important social relations even after the imposition of a structure that attenuates normal work group forces.

No differences between plannables and assigneds in public social interaction were visible to the research team during questionnaire administration. Both seemed to have the normal characteristics of cliques, peer leaders, isolates, etc. Thus, perhaps the data are evidence of the durability of social structures, even in the face of handicapping structural conditions.

On the basis of the data at hand it is impossible to determine the nature and strength of the informal organization in this population. The questionnaire was not designed to measure this. It is similarly impossible to gauge the influence of seniority on the present findings. If a population of all new inductees were placed into a plannable structure, with no carryover from prior group experience together, would the level of group-relevant intervening variables still be as high as those of a similar population of assigneds? How important is the greater loyalty to the company that the plannables report in maintaining this structure, a loyalty not likely to be found in new inductees? If the basic assumption of most group dynamicists, that groups are inevitable and ubiquitous (Cartwright and Zander, 1968, p.23), is true, then perhaps enough group characteristics would emerge even among former strangers to maintain a plannable department.

Another possible coping mechanism would be the group meeting, discussed earlier in connection with the finding that plannables reported that their supervisors hold significantly more frequent group meetings. The group meeting could be a tool by means of which goal oriented behaviors are encouraged, information is disseminated, and the basic conditions required for collective efforts are established. It is conceivable that more frequent meetings compensate, at least in part, for the lack of stable work group structure.

It should be pointed out, however, that simply having meetings does not guarantee favorable results. Likert (1959) has reported evidence collected by Floyd C. Mann that "a supervisor is better off never to hold a meeting than to conduct meetings of his work group in such a manner that the men feel he is not interested in their ideas--a finding with an obvious bearing on attempts to improve, say, the amount of teamwork and interaction among subordinates" (p. 79). Data concerning the *quality* of the plannables' meetings, in addition to their frequency, would be needed in order to evaluate such meetings as a coping mechanism.

A final suggestion concerning coping mechanisms is based on the findings that plannables, who attribute less control to first-level supervisors, also score higher on system-wide variables Perhaps link-pin functions are not performed only by supervisors, but are distributed throughout the entire organizational population. And perhaps unstable structure enhances the link-pin behavior of nonsupervisory employees The kinds of intervening variables on which the plannables exceeded the assigneds support this notion.

Conceptualizing a more even distribution of link-pin functions parallels the notion of leadership behaviors distributed among both supervisory and non-supervisory personnel, and could lead to ways of thinking about expanding the total amount of linkage in the organization. Perhaps making more organization members link-pins would raise the overall level of intervening variables, and subsequently end-result variables also.

Fit with Previous Research

Part of the present findings conflict with previous theoretical work and empirical findings. Bowers and Seashore (1966) state that "there are both common-sense and theoretical reasons for believing that a formally acknowledged leader through his supervisory leadership sets the pattern of mutual leadership which subordinates supply each other" (p 249). They then present data supporting their conclusion that "there is a close relationship between all managerial characteristics, on the one hand, and all peer characteristics on the other" (p. 257). This conclusion is not supported by the present study, since the assigneds lead in all peer leadership measures despite the lack of any clear pattern in the supervisory leadership indices. Thus, in the present study the best predictor of peer leadership is not supervisory leadership, but structure. These seemingly conflicting findings can be reconciled by recalling that both supervisory leadership and organizational structure are causal variables (Likert, 1967, p. 29). Given a fairly constant structure, such as characterized the insurance agencies investigated by Bowers and Seashore, the expected relationship between supervisory and peer leadership was detectable. However, in the present study the effects of another causal variable, structure, overrode the effects of supervisory leadership and had strong impact on peer leadership. Thus, though the effects of structure were controlled by Bowers and Seashore by selecting similarly structured agencies,

structural effects emerged as the most potent causal variables in the present study, where populations were selected for analysis so as to maximize variance in structure. This suggests that in general structure may account for a greater proportion of the variance in peer leadership than supervisory leadership would account for.

Porter and Lawler (1965), in their review of research on organization structure as an independent variable, conclude that "increased attention in the future to research on structural properties of organizations should improve our understanding of the way people think and behave when they function in their jobs within organizations" (p.49). The finding of structural effects here leads the present investigator to agree with their conclusion.

In addition, investigation of the effects of unstable organizational structure is timely. Blauner's (1964) notion of the trend toward alienation in industry as an inverted U, with automated continuous-process technology marking a point of recovery toward health, and Burns and Stalker's (1961) analysis of the organic structure emerging in an industry characterized by accelerating technological innovation, point to the growing need for studying the effects of the structural consequences of such changes at all levels in the organization.

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APPENDIX A

ISR

INSTITUTE FOR SOCIAL RESEARCH / THE UNIVERSITY OF MICHIGAN / ANN ARBOR, MICHIGAN 48106

This questionnaire is a part of a study being conducted by The University of Michigan Institute for Social Research in conjunction with your company. In the broadest sense the goals of this study are to learn more about how people work together in organizations and how to use what is learned for making the work situation even more satisfying and productive.

If this study is to be helpful, it is important that you answer each question as thoughtfully and frankly as possible. This is not a test; there are no right and wrong answers. The important thing is that you answer the questions the way you see things or the way you feel about them.

All individual responses to questions are completely CONFIDENTIAL. Although none of the questionnaires, once they are filled out, will ever be seen by anyone in the company, to ensure confidentiality please do not place your name on the questionnaire.

Completed questionnaires are processed by automated equipment. Computers summarize the answers in statistical form for those work groups large enough so that individual responses cannot be identified. Your supervisor will then have the opportunity to discuss the summarized findings with you and your fellow employees.

The University of Michigan Staff
Ann Arbor, Michigan

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INSTRUCTIONS

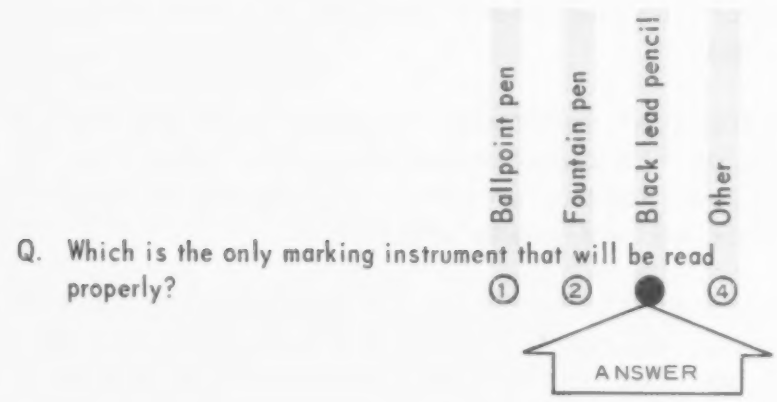
1. Most questions can be answered by filling in one of the answer spaces. If you do not find the exact answer that fits your case, use the one that is closest to it.

2. Please answer all questions in order.

3. Remember, the value of the study depends upon your being straightforward in answering this questionnaire. You will not be identified with your answers.

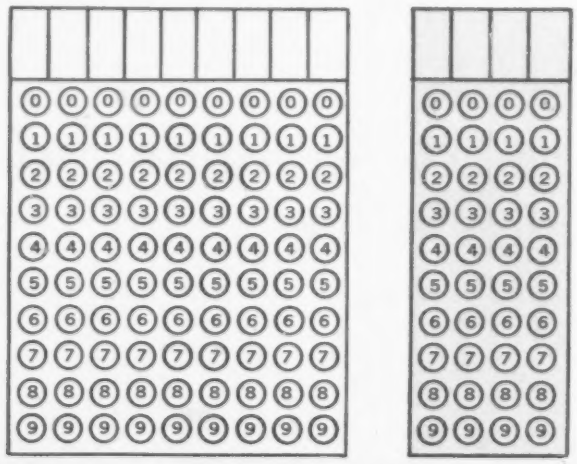
* * * * *

4. This questionnaire is designed for automatic scanning of your responses. Questions are answered by marking the appropriate answer spaces (circles) as illustrated in this example:



5. Please use a soft pencil (No. 2 is ideal), and observe carefully these important requirements:

   - Make heavy black marks that fill the circle.
   - Erase cleanly any answer you wish to change.
   - Where written numbers are called for, stay well within the area designated.
   - Make no stray markings of any kind.



NOTE: Read these answer categories over carefully. → Then answer each of the following questions by blackening in the numbered circle under the answer you want to give.

	To a very little extent	To a little extent	To some extent	To a great extent	To a very great extent
1. To what extent is the company generally quick to use improved work methods?	①	②	③	④	⑤
2. To what extent does the company have a real interest in the welfare and happiness of those who work here?	①	②	③	④	⑤
3. How much does the company try to improve working conditions?	①	②	③	④	⑤
4. To what extent do persons in your work group know what their jobs are and know how to do them well?	①	②	③	④	⑤
5. To what extent does your company have clear-cut, reasonable goals and objectives?	①	②	③	④	⑤
6. To what extent are work activities sensibly organized in this company?	①	②	③	④	⑤
7. To what extent are the equipment and resources you have to do your work with adequate, efficient, and well-maintained?	①	②	③	④	⑤
8. To what extent does the company make an effort to help employees get and maintain a good income?	①	②	③	④	⑤
9. To what extent do you feel a real responsibility to help the company be successful?	①	②	③	④	⑤
10. How adequate for your needs is the amount of information you get about what is going on in other departments (or shifts)?	①	②	③	④	⑤
11. How receptive are those above you to your ideas and suggestions?	①	②	③	④	⑤
12. To what extent are you told what you need to know to do your job in the best possible way?	①	②	③	④	⑤
13. To what extent do persons in your work group keep each other informed about important events and situations?	①	②	③	④	⑤
14. How hard do people try to see that their supervisor and his superiors get full and accurate information about work problems?	①	②	③	④	⑤
15. To what extent do you have a feeling of loyalty toward this company?	①	②	③	④	⑤

16. How are differences and disagreements between persons or units handled in this company?

① Disagreements are almost always avoided, denied, or suppressed

② Disagreements are often avoided, denied, or suppressed

③ Sometimes disagreements are accepted and worked through; sometimes they are avoided or suppressed

④ Disagreements are usually accepted as necessary and desirable and worked through

⑤ Disagreements are almost always accepted as necessary and desirable and are worked through

NOTE: Read these answer categories over carefully. → Then answer each of the following questions by blackening in the numbered circle under the answer you want to give.

	Very dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Fairly satisfied	Very satisfied
17. All in all, how satisfied are you with the persons in your work group?	①	②	③	④	⑤
18. All in all, how satisfied are you with your supervisor?	①	②	③	④	⑤
19. All in all, how satisfied are you with your job?	①	②	③	④	⑤
20. All in all, how satisfied are you with this company, compared to most others?	①	②	③	④	⑤
21. Considering your skills and the effort you put into the work, how satisfied are you with your pay?	①	②	③	④	⑤

22. Why do people work hard in this company?

① Just to keep their jobs and avoid being chewed out

② To keep their jobs and to make money

③ To keep their jobs, make money, and to seek promotions

④ To keep their jobs, make money, seek promotions, and for the satisfaction of a job well done

⑤ To keep their jobs, make money, seek promotions, do a satisfying job, and because other people in their work group expect it

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	To a very little extent	To a little extent	To some extent	To a great extent	To a very great extent
23. To what extent do you enjoy performing the actual day-to-day activities that make up your job?	①	②	③	④	⑤
24. How much do you look forward to coming to work each day?	①	②	③	④	⑤
25. To what extent are there things about working here (people, policies, or conditions) that encourage you to work hard?	①	②	③	④	⑤
26. To what extent do you feel your pay is related to how much you help your company be successful?	①	②	③	④	⑤

NOTE: Read these answer categories over carefully. → Then answer each of the following questions by blackening in the numbered circle under the answer you want to give.

	Little or no influence	Some	Quite a bit	A great deal	A very great deal of influence
In general, how much say or influence does each of the following groups of people have on what goes on in your department?					
27. Lowest-level supervisors (foremen, office supervisors, etc.)	①	②	③	④	⑤
28. Top managers (president, vice presidents, heads of large divisions, etc.)	①	②	③	④	⑤
29. Employees (people who have no subordinates)	①	②	③	④	⑤
30. Middle managers (department heads, area managers, etc.)	①	②	③	④	⑤
31. In general, how much say or influence do you have on what goes on in your work group?	①	②	③	④	⑤

32. How are objectives set in this company?

① Objectives are announced with no opportunity to raise questions or give comments

② Objectives are announced and explained, and an opportunity is then given to ask questions

③ Objectives are drawn up, but are discussed with subordinates and sometimes modified before being issued

④ Specific alternative objectives are drawn up by supervisor and subordinates are asked to discuss them and indicate the one they think is best

⑤ Problems are presented to those persons who are involved, and the objectives felt to be best are then set by the subordinates and the supervisor jointly, by group participation and discussion

	To a very little extent	To a little extent	To some extent	To a great extent	To a very great extent
33. In this company, to what extent are decisions made at those levels where the most adequate and accurate information is available?	①	②	③	④	⑤
34. When decisions are being made, to what extent are the persons affected asked for their ideas?	①	②	③	④	⑤
35. People at all levels of a company usually have know-how that could be of use to decision-makers. To what extent is information widely shared in this company so that those who make decisions have access to all available know-how?	①	②	③	④	⑤
36. To what extent are the persons who make decisions aware of problems at lower levels in the company?	①	②	③	④	⑤
37. To what extent do persons in different departments plan together and coordinate their efforts?	①	②	③	④	⑤
38. In working with other departments, problems are bound to arise from time to time. When these problems do occur, to what extent are they handled well?	①	②	③	④	⑤

39. Which of the following best describes the manner in which problems between departments are generally resolved?

① Little is done about these problems--they continue to exist

② Little is done about these problems--they work themselves out with time

③ The problems are appealed to a higher level in the organization--but often are still not resolved

④ The problems are appealed to a higher level in the organization--and are usually resolved there

⑤ The problems are worked out at the level where they appear through mutual effort and understanding

IDENTIFICATION OF SUPERVISOR: Take the separate sheet with the names of all the supervisors in your company or division. Find your supervisor's name on the list (he's the person you report to directly). Now, copy the number you find to the left of his name in these boxes. Below each box blacken the circle that is numbered the same as the number in the box. If your supervisor is not on the list, print his (or her) name in this space below:

NAME _____

⓪	⓪	⓪	⓪	⓪
①	①	①	①	①
②	②	②	②	②
③	③	③	③	③
④	④	④	④	④
⑤	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨

PLEASE ANSWER QUESTIONS 40 THRU 58 ABOUT THE PERSON YOU IDENTIFIED. SUPERVISOR MEANS THE PERSON TO WHOM YOU REPORT DIRECTLY.

	To a very little extent	To a little extent	To some extent	To a great extent	To a very great extent
40. When your supervisor has problems related to the work, to what extent does he use group meetings to talk things over with his subordinates and get their ideas?	①	②	③	④	⑤
41. To what extent does your supervisor handle well the technical side of his job--for example, general expertness, knowledge of job, technical skills needed in his profession or trade?	①	②	③	④	⑤
42. To what extent does your supervisor pull both for the company and for his men?	①	②	③	④	⑤
43. How friendly and easy to approach is your supervisor?					
This is how it is now:	①	②	③	④	⑤
This is how I'd like it to be:	①	②	③	④	⑤
44. When you talk with your supervisor, to what extent does he pay attention to what you're saying?					
This is how it is now:	①	②	③	④	⑤
This is how I'd like it to be:	①	②	③	④	⑤
45. To what extent is your supervisor willing to listen to your problems?					
This is how it is now:	①	②	③	④	⑤
This is how I'd like it to be:	①	②	③	④	⑤
46. How much does your supervisor encourage people to give their best effort?					
This is how it is now:	①	②	③	④	⑤
This is how I'd like it to be:	①	②	③	④	⑤
47. To what extent does your supervisor maintain high standards of performance?					
This is how it is now:	①	②	③	④	⑤
This is how I'd like it to be:	①	②	③	④	⑤
48. To what extent does your supervisor set an example by working hard himself?					
This is how it is now:	①	②	③	④	⑤
This is how I'd like it to be:	①	②	③	④	⑤
49. To what extent does your supervisor encourage subordinates to take action without waiting for detailed review and approval from him?					
This is how it is now:	①	②	③	④	⑤
This is how I'd like it to be:	①	②	③	④	⑤
50. To what extent does your supervisor show you how to improve your performance?					
This is how it is now:	①	②	③	④	⑤
This is how I'd like it to be:	①	②	③	④	⑤

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	To a very little extent	To a little extent	To some extent	To a great extent	To a very great extent

51. To what extent does your supervisor provide the help you need so that you can schedule work ahead of time?

This is how it is now: ① ② ③ ④ ⑤

This is how I'd like it to be: ① ② ③ ④ ⑤

52. To what extent does your supervisor offer new ideas for solving job-related problems?

This is how it is now: ① ② ③ ④ ⑤

This is how I'd like it to be: ① ② ③ ④ ⑤

53. To what extent does your supervisor encourage the persons who work for him to work as a team?

This is how it is now: ① ② ③ ④ ⑤

This is how I'd like it to be: ① ② ③ ④ ⑤

54. To what extent does your supervisor encourage people who work for him to exchange opinions and ideas?

This is how it is now: ① ② ③ ④ ⑤

This is how I'd like it to be: ① ② ③ ④ ⑤

55. To what extent do you feel your supervisor has confidence and trust in you? ① ② ③ ④ ⑤

56. To what extent do you have confidence and trust in your supervisor? ① ② ③ ④ ⑤

NOTE: Read these answer categories over carefully. → Then answer each of the following questions by blackening in the numbered circle under the answer you want to give.

	Never	Once or twice per year	Three to six times per year	About once per month	More often than once per month

57. How often does your supervisor hold group meetings where he and the people who work for him can really discuss things together?

This is how it is now: ① ② ③ ④ ⑤

This is how I'd like it to be: ① ② ③ ④ ⑤

	To a very little extent	To a little extent	To some extent	To a great extent	To a very great extent

58. How much does your immediate supervisor need each of the following to be a better manager?

a. More information about how his people see and feel about things: ① ② ③ ④ ⑤

b. More information about principles of good management: ① ② ③ ④ ⑤

c. A change in the kinds of things he personally feels are important: ① ② ③ ④ ⑤

d. Greater ability in handling the technical side or the administrative side of his job: ① ② ③ ④ ⑤

e. Practice in making use of information he already has about how his people feel, how to be a good manager, etc.: ① ② ③ ④ ⑤

f. A situation that lets him do what he already knows how to do and wants to do: ① ② ③ ④ ⑤

g. More interest in and concern for the people who work for him: ① ② ③ ④ ⑤

IN THE QUESTIONS BELOW, WORK GROUP MEANS ALL THOSE PERSONS WHO REPORT TO THE SAME SUPERVISOR.

59. How friendly and easy to approach are the persons in your work group?

This is how it is now: ① ② ③ ④ ⑤

This is how I'd like it to be: ① ② ③ ④ ⑤

60. When you talk with persons in your work group, to what extent do they pay attention to what you're saying?

This is how it is now: ① ② ③ ④ ⑤

This is how I'd like it to be: ① ② ③ ④ ⑤

61. To what extent are persons in your work group willing to listen to your problems?

This is how it is now: ① ② ③ ④ ⑤

This is how I'd like it to be: ① ② ③ ④ ⑤

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	To a very little extent	To a little extent	To some extent	To a great extent	To a very great extent

62. How much do persons in your work group encourage each other to give their best effort?

This is how it is now: ① ② ③ ④ ⑤

This is how I'd like it to be: ① ② ③ ④ ⑤

63. To what extent do persons in your work group maintain high standards of performance?

This is how it is now: ① ② ③ ④ ⑤

This is how I'd like it to be: ① ② ③ ④ ⑤

64. To what extent do persons in your work group help you find ways to do a better job?

This is how it is now: ① ② ③ ④ ⑤

This is how I'd like it to be: ① ② ③ ④ ⑤

65. To what extent do persons in your work group provide the help you need so that you can plan, organize, and schedule work ahead of time?

This is how it is now: ① ② ③ ④ ⑤

This is how I'd like it to be: ① ② ③ ④ ⑤

66. To what extent do persons in your work group offer each other new ideas for solving job-related problems?

This is how it is now: ① ② ③ ④ ⑤

This is how I'd like it to be: ① ② ③ ④ ⑤

67. How much do persons in your work group encourage each other to work as a team?

This is how it is now: ① ② ③ ④ ⑤

This is how I'd like it to be: ① ② ③ ④ ⑤

68. How much do persons in your work group emphasize a team goal?

This is how it is now: ① ② ③ ④ ⑤

This is how I'd like it to be: ① ② ③ ④ ⑤

	To a very little extent	To a little extent	To some extent	To a great extent	To a very great extent

69. To what extent do persons in your work group exchange opinions and ideas?

This is how it is now: ① ② ③ ④ ⑤

This is how I'd like it to be: ① ② ③ ④ ⑤

70. To what extent do members of your work group plan together and coordinate their efforts? ① ② ③ ④ ⑤

71. To what extent does your work group make good decisions and solve problems well? ① ② ③ ④ ⑤

72. To what extent do you feel that you and the other persons in your work group belong to a team that works together? ① ② ③ ④ ⑤

73. To what extent do you have confidence and trust in the persons in your work group? ① ② ③ ④ ⑤

74. Sex:

① Male ② Female

75. When did you first come to work here?

① Less than 1 year ago
② Between 1 and 5 years ago
③ Between 5 and 10 years ago
④ Between 10 and 15 years ago
⑤ Between 15 and 25 years ago
⑥ More than 25 years ago

76. Into what age bracket do you fall?

① 25 years or under
② 26 years to 30 years
③ 31 years to 35 years
④ 36 years to 40 years
⑤ 41 years to 45 years
⑥ 46 years to 55 years
⑦ 56 years or over

77. How much schooling have you had?

① Some grade school
② Completed grade school
③ Some high school
④ Completed high school
⑤ Some college
⑥ Completed college

78. While you were growing up--say until you were eighteen--what kind of community did you live in for the most part?

① Rural area or farm ③ Suburban area near large city

② Town or small city ④ Large city

79. What is your primary wage or salary classification?

① Hourly ② Piece rate

③ Salaried, non-exempt (paid for overtime worked)

④ Salaried, exempt (not paid for overtime worked)

⑤ Commission

80. On the basis of your experience and information, how would you rate your work group on effectiveness? How well does it do in fulfilling its mission or achieving its goals in comparison with other work groups in the company?

① The work group does a rather poor job

② Fair

③ Good

④ Very good

⑤ The work group does an excellent job

	To a very little extent	To a little extent	To some extent	To a great extent	To a very great extent
81. To what extent do you find it difficult to sleep at night because you keep thinking of what happened at work during the day?	①	②	③	④	⑤
82. To what extent does your job make you feel nervous and "jumpy"?	①	②	③	④	⑤
83. To what extent were the results of the last survey for your own work group made available to you by your supervisor ?	①	②	③	④	⑤
84. In discussing the results of that survey, to what extent did your immediate supervisor ask for the ideas and opinions of persons in your work group?	①	②	③	④	⑤
85. How helpful were the results of the last survey to your work group?	①	②	③	④	⑤

ON SEPARATE SHEETS YOU WILL FIND ADDITIONAL QUESTIONS. PLEASE ANSWER THEM IN THE SPACES PROVIDED BELOW.

86	①	②	③	④	⑤	115	①	②	③	④	⑤
87	①	②	③	④	⑤	116	①	②	③	④	⑤
88	①	②	③	④	⑤	117	①	②	③	④	⑤
89	①	②	③	④	⑤	118	①	②	③	④	⑤
90	①	②	③	④	⑤	119	①	②	③	④	⑤
91	①	②	③	④	⑤	120	①	②	③	④	⑤
92	①	②	③	④	⑤	121	①	②	③	④	⑤
93	①	②	③	④	⑤	122	①	②	③	④	⑤
94	①	②	③	④	⑤	123	①	②	③	④	⑤
95	①	②	③	④	⑤	124	①	②	③	④	⑤
96	①	②	③	④	⑤	125	①	②	③	④	⑤
97	①	②	③	④	⑤	126	①	②	③	④	⑤
98	①	②	③	④	⑤	127	①	②	③	④	⑤
99	①	②	③	④	⑤	128	①	②	③	④	⑤
100	①	②	③	④	⑤	129	①	②	③	④	⑤
101	①	②	③	④	⑤	130	①	②	③	④	⑤
102	①	②	③	④	⑤	131	①	②	③	④	⑤
103	①	②	③	④	⑤	132	①	②	③	④	⑤
104	①	②	③	④	⑤	133	①	②	③	④	⑤
105	①	②	③	④	⑤	134	①	②	③	④	⑤
106	①	②	③	④	⑤	135	①	②	③	④	⑤
107	①	②	③	④	⑤	136	①	②	③	④	⑤
108	①	②	③	④	⑤	137	①	②	③	④	⑤
109	①	②	③	④	⑤	138	①	②	③	④	⑤
110	①	②	③	④	⑤						
111	①	②	③	④	⑤	140	①	②	③	④	⑤
112	①	②	③	④	⑤	141	①	②	③	④	⑤
113	①	②	③	④	⑤	142	①	②	③	④	⑤
114	①	②	③	④	⑤	143	①	②	③	④	⑤

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